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ABSTRACT

This report consists primarily of employer views on hiring practices and training needs in 17 occupations in five occupational areas (office work, distribution, service, communications, and crafts). Described first are the activities of the Labor Market Information Network that resulted in the compilation of data presented in the report. The following topics are discussed in a section on office work: clerical occupations reexamined and the emergence of word processing, word processing in the public sector, the office of the future, and computer occupations reexamined. Covered in the chapter on distribution are freight traffic, international trade, international banking, and warehousing. Various facets of the service occupations are examined, including customer contact, social service employment in the areas of job development and child care, and travel agency work. The following occupations/areas are dealt with in a chapter on crafts: dental laboratory technicians, manufacturing by small firms, energy-related occupations, and cable television. The final three sections include a discussion of technical assistance provided during the project, listing of project participants, and general conclusions relevant for occupational training that were drawn from the data collection procedure. (MN)

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# EMPLOYERS' VIEWS ON HIRING AND TRAINING

## A NON-STATISTICAL APPROACH TO DATA-GATHERING

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

THIRD ANNUAL REPORT
1980-81

LABOR MARKET INFORMATION NETWORK

This is the third volume in a series of reports on the work of the Labor Market Information Network, a publicly-funded project which learned from employers, between 1978 and 1981, their entry-level hiring requirements in a variety of occupations and industries in New York City. Some associated issues that arose in the course of the investigation were also addressed. The purpose of the project was to improve the planning capacity for occupational education in the City's schools, and for manpower training in the City's CETA programs.

The three volumes are annual reports for each of the years of the study. Each volume briefly recapitulates the preceding one and each can be referred to independently. For a fuller appreciation of the findings and the non-statistical methodology, the three volumes should be consulted.

# EMPLOYERS' VIEWS ON HIRING AND TRAINING

## A NON-STATISTICAL APPROACH TO DATA-GATHERING

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**1980-1981**

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Once again it was the employers who gave of their time and knowledge who were the principal contributors to these studies. But for their interest and cooperation this project could not have existed.

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# 1.
# The Project

# THE THIRD YEAR

Labor Market Information Network began its third year of operation on September 16, 1980, the first year in which it was totally funded by New York City. The scope of planned activities for the 1980-81 year was enlarged beyond the project's original design, which had been to gather information about City employers' views on pre-employment training. Additional activities, scheduled by the City's Department of Employment, were aimed at overcoming the persistent difficulty the project had encountered in persuading potential users to incorporate LMIN data into the planning and design of vocational education and training programs. The major communication method, thus far, has been the publication of annual reports entitled, "Employers Views on Hiring and Training."

In its first year, funded by the CETA Operations Division of the New York State Department of Labor, the project had been based on a series of assumptions:

- That occupational education and manpower training programs are impeded by insufficient information about employers' entry-level hiring requirements
- That employers not only have the necessary information but are willing to share it if a qualitative rather than quantitative method is made available to them, and
- That if supplied with such information the service-provider agencies would make use of it to improve their programs.

The first of these assumptions has been a perennial concern of the critics of vocational preparation, intensifying recently because of persistent high youth unemployment rates and an apparent widening of the mismatch between job seekers and job requirements. The last, it was assumed, would be a natural development proceeding from a "felt need" for reliable information on the part of the planners and providers of occupational education and training. Therefore, the project was asked initially to test the second of these assumptions, the responsiveness of employers. In the process it would test also the feasibility of accumulating the desired information by convening Task Forces of selected employers who, in time, would become a network of information resources.

The recipients of the data were to be: The Department of Employment of the City of New York, which operates the City's CETA programs; the Board of Education of the City of New York and, in particular, its occupational education facilities; and the New York State Department of Labor, including its Employment Service. The sponsors of the project were: The Employment and Training Planning Council of the City of New York, the Advisory Council for Occupational Education of the Board of Education, and the Division of Research and Statistics of the State Department of Labor.

## The First Year

The first year's work is described in LMIN's 1978 report. In addition to factual findings about 13 separate occupations or industries, it includes implications about the New York City labor market, about the education and training being provided, about some probable developments in the near future, and some conclusions about the method used in collecting the data.

In its first year, when its rationale was restricted to the gathering of information, the project's objectives and the activities they guided were similarly focused.

The 13 occupations and industries for which Task Forces were organized fell into the four principal categories of employment and were:

| | | |
|---|---|---|
| OFFICE WORK | - | Clerical Occupations<br>Computer-Related Occupations<br>The Banking Industry |
| SERVICE | - | The Hotel Industry<br>Food Service Occupations<br>Home Health Care<br>Horticulture-Floriculture |

MAINTENANCE - Building Maintenance
Major Appliance Repair
Advanced Business Machine Repair

MANUFACTURING - The Garment Industry
Printing
Machining Occupations

As the work in 1978 produced portions of the first report the sponsors agreed that the results warranted continuing the test and the City Department of Employment pledged half the funds necessary for a second year's work. Although some of the questions that needed additional work were evident, the first year's work had indicated there might be important considerations for the intended users of which the project was unaware. They might want occupations studied that did not suggest themselves, and they might want issues addressed that would not occur to the project staff.

The obvious way to determine what these occupations and issues were was to ask the sponsoring and recipient agencies, but they are large institutions and their representatives on the project Steering Committee did not feel they could make the necessary decisions. They suggested, instead, convening selected groups from each agency and asking them for their views. This led to the observation that for effectiveness, the participants in these groups would have to be aware of the content of the first report. To achieve this they would not only have to have read it, but should also have been given an opportunity to discuss it with the project staff. As a result, in the refunding proposal the initial design was expanded to include, in addition to information-gathering, that the project would "assume greater responsibility for distributing its information..."

Despite this change, however, the project remained a demonstration of hypothesized sources and means for gathering particular categories of labor market information, based on initial assumptions about the usefulness of the data being sought.

## The Second Year

In its second year LMIN's objectives were shaped not only by its new dual rationale, but also by the findings and implications that resulted from the first year's work. The ten "general observations" chosen as highlights of the first report are far from a summary of that year's activity but indicate the nature of the findings:

> "New York City employers know why they have their hiring requirements and they have useful information regarding decisions about pre-employment training.
>
> "Major deficiencies in the City's labor supply are all qualitative and entry-level jobs can be filled by sifting through a large enough pool of applicants.
>
> "The City's overwhelming shift to a service economy has intensified the need for workers with communication and interpersonal skills.
>
> "Manufacturing employment's low status in the City, coupled with lack of required skills, stands between many job seekers and available jobs.
>
> "Technical skills alone are almost never enough for gaining employment, but must be supplemented by literacy, problem-solving and job-interest, and in many cases public-contact skill.
>
> "As skill requirements increase for higher-level jobs, many employers doubt that high school or manpower programs alone can produce job-readiness.
>
> "Qualitative deficiencies in the supply of entry-level workers, together with the impact of new technology where applicable, have resulted in increasing discontinuity in employment hierarchies.
>
> "Technology and EEO regulations have opened new opportunities for advancement, but only for those with more than merely entry-level competencies.

> "Knowing how to apply for a job is as important in getting hired as knowing how to do the job, or being able to learn it.
>
> "High school and manpower programs, by failing to incorporate current hiring requirements, have extremely low credibility with most City employers."

To the extent that the project in its second year was to continue its gathering of information about occupations for which programmed pre-employment training is appropriate, its objective was simply to expand the fund of data by adding more. However, even that was, understandably enough, influenced by the first-year experience, which led to additional objectives involving method.

For instance, the success of the Task Force approach was counter-balanced in the first year by some shortcomings. The 1978 report relates the difficulties encountered in attempting to convene Task Forces for printing, machining, and auto repair, for example. Analysis of these experiences had disclosed the method's bias toward interested larger companies capable of releasing a representative to serve on a Task Force. Where employers were interested but could not leave their business for a meeting, they were usually from a smaller business. In some industries and for some occupations, as for instance auto repair, this virtually foreclosed a meaningful Task Force. Consequently, for the second year, another objective was to test supplements or alternatives to the original method to see if they would deal with such situations.

The injunction to the project to "assume greater responsibility for distributing its information" imposed a number of objectives, ranging from a series of conferences for different agencies and different levels of activity within those agencies, to a newsletter through which the project could communicate new data quickly to users, and users in various agencies could communicate new and interesting activities or other developments among themselves.

A final objective, requested by the CETA Operations Division, was that the project make its report available to other CETA prime sponsors in the state and also to assist them should they be interested in replicating the project in their own labor markets. A conference for prime sponsors was included as a provision of the refunding proposal.

The studies in the second year directed to occupations or industries were:

OFFICE WORK - Bookkeeping (not a Task Force)
Hospitals

SERVICE - Security
Cosmetology (not a Task Force)
Animal Care
Interconnect Telephone

MAINTENANCE - Auto and Auto Body Mechanic
(not a Task Force)
Maintenance Mechanic
(not a Task Force)

COMMUNICATION - Graphic Arts

In addition, two Task Forces were convened to discuss training for generic skills relevant to a wide variety of occupations. The skills these employer groups considered were described as "Customer Contact" and "Technological Literacy."

The proposed conference for personnel from the three agencies that were to be the principal users of the LMIN qualitative information was not held because, at planning meetings, representatives of those agencies actively discouraged the holding of such a meeting. Instead, LMIN convened two Task Forces to discuss problems impeding use of the information. One Task Force consisted of executives from the principal voluntary agencies that contract with DOE for CETA programs. The other, selected by the High School Division of the Board of Education, consisted of counselors.

Another activity in lieu of the proposed conference was technical assistance provided by LMIN to those requesting it, either within the sponsor agencies or elsewhere. The activity was mostly proposal review or discussion of proposals being developed. Although it involved a fair amount of activity it was not a concerted effort since the requests were haphazard and uncoordinated.

## The Third Year Project Design

Toward the end of 1979, LMIN was uncertain of whether to seek re-funding. The understanding was that the state could no longer provide support and the Department of Employment was the only City agency that could serve as the project's sponsor. Given the lack of response on the part of DOE staff to the project's findings, there were questions about whether to continue the project and if so, how to provide two-way communication that would insure that information gathered would be of use to DOE and that its staff would be conversant with LMIN's findings. Answers to these questions were sought in a series of meetings of a much-enlarged Steering Committee that included major department heads of DOE, as well as representatives of the range of CETA-funded activities, such as TAP centers, the Private Industry Council, the major CETA contractors, and other potential users of the information. After several meetings the group endorsed the continuation of the project and added to information gathering some activities designed to improve relations with the DOE and other users.

The information-gathering process, it was recommended, to the extent possible, should focus on activities involving Task Forces that had already been constructed, in order to maintain and even strengthen their sense of affiliation with the project. Also, the project would use alternative methods, including field studies for those areas for which Task Forces prove to be an impractical mode of data collection.

With respect to user-agency relations, after sifting through a variety of possibilities the Steering Committee settled on two, the construction of a special advisory committee, and a broadened conception of technical assistence. The principal vehicle for systematizing and enlarging user-agency input into LMIN's operating decisions was to be the Advisory Committee composed of delegates assigned to it by those City institutions with a direct stake in the issues to which the project is addressed. These delegates would inform LMIN about their parent agency's needs and interests and at the same time serve as the conveyors of those aspects of LMIN's findings that might be of use to their parent agencies.

Although the Advisory Committee, it was believed, would offer the best source of information on what is both needed and attainable, additional activities subsumed under a broadened technical assistance function would include a variety of meetings - cast as seminars, workshops or any model that would facilitate communication - offered to user-agency staff, CETA contractors, TAP center counselors or any interested groups, individualized reports in response to particular agency interests, and setting up meetings at which PIC, DOE staff or contractors could meet with specific categories of employers.

The foregoing was incorporated into a proposal forwarded to the DOE. But not withstanding DOE participation in the planning process it was considerably revised by their staff and the following schedule of activity was the final one drafted by DOE and ultimately approved by the Board of Estimate.

# PROPOSED SCHEDULE OF PROJECT ACTIVITY

Labor Market Information Network

Scope of work, June 16, 1980 - June 15, 1981

I. Continue local labor market non-statistical data gathering.

  A. Establish Task Forces in new areas:

    1. Non-profit organizations

    2. Energy use and conservation

    3. Import and export trade

  B. Establish "Generic Skills" Task Forces:

    1. Customer relations skills

    2. Office systems skills

    3. Electro-mechanical skills

  C. Conduct field study survey of employment opportunities and employer needs in small businesses (25-50 employees).

  D. Prepare and distribute summaries of each task force area and field study, with findings and recommendations, at least quarterly.

II. Review appropriateness of skills training in selected DOE occupational areas.

  A. In conjunction with DOE, identify 4-6 occupational areas that constitute major training areas in DOE.

  B. Examine training content and method to evaluate appropriateness to available jobs and to employer needs.

  C. Prepare written report for each area, quarterly.

III. Provide technical assistance to DOE in RFP and proposal review

   A. Review and comment on selected RFPs for appropriateness of training/skills specifications.

   B. Review and comment on selected proposals for skills or occupations that LMIN has examined.

The effective re-funding date was June 16, 1980, but a delay was requested to allow for a September 16th start. First, lead time was required to recruit replacements for staff members who were no longer available after a six-month hiatus and to locate office space and arrange for furnishings and equipment.* Second, summer has proven an impractical and nearly impossible time for scheduling meetings of Task Forces and committees. Summer, moreover, did not appear to be the auspicious season for establishing the relations with DOE personnel needed to carry out items II and III.

By September 16th, LMIN was able to begin the information-gathering process immediately while at the same time making initial contacts with officials of a list of agencies recommended by DOE as likely candidates for the Advisory Committee. It also asked for an opportunity to meet with DOE staff members to determine who would identify the "selected DOE occupational areas" and select the proposals for LMIN review. But as in the previous years, despite the specificity of the contract with respect to activities that depended on DOE initiative, the main LMIN activity continued to be information-gathering.

## Selecting Occupations and Industries

The criteria used in selecting areas for study in previous years were: occupations and industries significant in the City labor market, balanced between blue-collar and white-collar, and representing the traditional along with the new. This time, some new considerations were added.

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* The State Labor Department once again was supportive, allowing LMIN to occupy the same space in State quarters and also to use State property and supplies at a cost well within the project's budget.

One was to look again at areas already studied to be sure that reports published in 1978 or 1979 remained a fairly accurate picture of the jobs, the hiring practices, and the employers' appraisals of training needs. Any that clearly demanded updating would be restudied. Another facet of this "second look" would be a reconsideration of generic skills where feasible to deepen and describe with greater precision the perspectives thus far attained.

A second criterion was to study companies selected by size, as measured by their number of employees, rather than by the nature of the business or the type of entry-level occupations. In addition, any areas suggested by DOE staff, other potential users, or any organization with a valid interest in information concerning hiring and training, would be considered.

However, as in the past, the project found that in some fields that had been suggested because they were being promoted to the public as growth areas, or for the same or other reasons had become interesting to educators and trainers, training is of little or no interest to the employers in them. Sometimes it was because the employers felt no training is needed, or because they had no interest in training below the level of a baccalaureate degree. In any event, unless employers had sufficient interest to be willing to provide the project their perception of current and future hiring requirements and how they might be met by pre-employment training, there seemed little point in a study by means of the LMIN method.

## The Second Look

Among the areas considered for a second look were clerical employment, computer-related occupations, and the hotel industry. Technological advances in the office, the swift pace of computer development, and the traditional volatility of the hotel business were the basic reasons for selecting these three areas.

Of these three, it was only the Task Force in the clerical field that agreed that there was a genuine need to update the information provided in 1978. They noted the increased attention to word-processing, the indications of changes in job structure and in the labor supply, and those changes beginning to surface in hiring requirements.

As a result, in addition to the original clerical Task Force, a sizable group of employers with special experience in word processing were involved as a second section of this Task Force. And in response to the pace of change, an entirely new Task Force, to assess the personnel implications of the office of the future, was convened. Upon learning that word processing was taking on importance in government offices, an investigation of the public sector practices was also undertaken.

Selected employers in the two 1978 Task Forces concerned with computers, Computer-Related Occupations and Advanced Business Machine Repair, were consulted as to the value of a re-examination of computer occupations. Unlike the Clerical Task Force participants they saw no immediete need for meeting. The trends they could identify were described in interviews and characterized as too distant as yet for more specific discussion. A report of the trends they envision and their responses to questions posed by the director of a community college program in computer science round out the section on office work in this volume.

As for the hotel industry, the reported downturn in business was described as a "leveling off to just extraordinary from the astronomical level of 1980." This was attributed partially to the availability of several thousand new hotel rooms in the City. The employment outlook continues favorable and no change in the job structure was reported. Therefore, no re-study was scheduled.

## Generic Skills

LMIN considered several ways of developing further its study of generic skills. These included: a review of the literature including training materials and program evaluations; widening the scope to a national overview of ongoing training by employers, colleges, and any other organizations; and bringing representatives of occupational education and training programs together with expert industry trainers. The latter had the greatest appeal as the method most likely to move the subject of generic training from a theoretic concept to an actual pre-employment program.

Sufficient interest in meeting with customer-contact trainers was thought to exist among planners of school, college, voluntary agency, and CETA-funded activities. Therefore, a joint meeting of program planners and industry trainers was convened. But a similar level of interest in what LMIN in its 1979 report called technological literacy was not evident. Therefore, no second meeting was planned. Instead, LMIN used its studies of manufacturing firms and craft occupations to look for additional suggestions for the development of a core of electro-mechanical skill training. Finally, an emerging office skill, often labelled "a systems approach," was described by the Office of the Future Task Force, but there did not appear to be enough time left in the year's schedule to examine it further.

## Company Size

The determination to study small manufacturing firms, or those with 50 or under employees, was planned in 1979. It arose out of the repeated statements made by educators and trainers that smaller firms are more likely to need the kind of training provided by high schools and short-term programs, and are "more amenable to hiring our graduates."

In addition, the same people often cited small manufacturing firms in boroughs other than Manhattan as the ones that are offering good jobs "that are going begging for want of trained workers."

Sometimes these statements were voiced as an implied criticism of LMIN, and as a way of refuting its major findings as representing only the views of the Fortune 500 companies. LMIN had not before used size of firm as a criterion for selection of industries or occupations to study, and many companies with relatively small numbers of employees had been included in such studies as Bookkeeping or as participants in such Task Forces as Food Service, the Garment Industry, or Major Appliance Repair. However, the larger organizations were often more responsive to the questions posed and more willing to serve on Task Forces. They would participate even if they were not encountering labor supply problems or training deficiencies that they could not overcome in-house. For the smaller organizations, participation usually implied that they were facing qualitative deficiencies that they would like to see become the focus of publicly-funded education and training.

Manufacturing, in addition, had not been singled out for study. Major skills, as needed in garment, printing, and machine shops, had been the focus of Task Forces. But much of manufacturing in this City is done by highly specialized companies which, even when taken as groups of employers in similar or even related kinds of businesses, constitute only a fragment of the total labor market. Therefore, in order to evaluate the job opportunities and training needs in small manufacturing firms, it was determined to include those engaged in any type of manufacturing activity, using size and geographic location as the only considerations.

## New Areas

Industry reaction to LMIN's study of graphic arts employment led to a recommendation that the Project use the same approach for two other occupations related to advertising and publishing - traffic, and audio-visual production. And, in the curious ways in which different occupations can relate to each other, the process of analyzing the training potential in what was to be termed Print Traffic made LMIN aware of a whole diversity of occupations involving traffic.

A first approach was to see to what extent traffic could be construed a generic skill. This lead to a look at traffic occupations in domestic transportation. At the same time, conscious of the increasing significance for New York City of international activities, the prospects for an international trade Task Force were being surveyed. Once again,in this context, the designation traffic occurred. (Traffic in manufacturing was to become a consideration in the study of manufacturing firms.) But it soon became clear that the international trade occupations were sufficiently different to warrant separate study and separate training.

The focus on international activities led not only to a study of international trade, with an emphasis on export as the rising aspect of foreign trade at present, but also to a consideration of jobs in travel agencies, and of the opportunities that might flow from legislation ending some restrictions on New York banks in international transactions. In addition, some Freight Traffic Task Force participants suggested that the field of warehousing might bear watching.

Beyond these areas, two unrelated fields were added because they are prominent in news stories and/or seem to have captivated program planners - cable television installation jobs and jobs related to alternate sources of energy or its conservation.

Suggestions

Only one area was suggested by DOE staff and this as the result of a letter from a private school in the field suggesting its worth as a CETA-funded training opportunity - dental laboratory technicians. The recommendation made in 1979 from a major CETA contracting agency that LMIN study the training needs in non-profit organizations became an investigation into social service agency employment. That, with the exception of the already noted questions from a community college in regard to computer programming, was the total input into the selection process by potential users of the information.

It had been hoped that the newly-formed Advisory Committee would be a source of ideas for either new areas to study or additional questions to ask employers already consulted. Despite the considerable time spent in developing the Committee, visiting City agencies, educational organizations, foundations, and training programs to explain the purposes of the Committee, until midway through the year, when a formal meeting of the group took place, no suggestions were made. At that meeting, the only fields suggested for study were telecommunications, international banking, and paraprofessionals such as teacher aides "because DOE is training them."

These are valid suggestions. But the only aspects of telecommunication that can be studied now seem to be the service functions in cable television, interconnect telephone, and those applications already in effect in advanced office systems. They, like international banking, had already been examined. Teacher aides, among other paraprofessionals were to be considered in the planned survey of non-profit employment.

## A Link to In-House Training

Another suggestion was that LMIN review private sector training offerings so that "CETA-funded programs could link up with them." Indeed, this had been a major recommendation in previous years. What industry considers trainability, more often the product of basic education and programs that emphasize fundamental principles rather than specific occupational applications, has been carefully noted. Indeed, it was this that led to the focus on "generic skills." This year's Task Force meeting concerning customer contact was aimed at providing precisely such a link between pre-employment programs and in-house company training.

## Methods

As in the past, once an occupation or industry was selected for consideration, a preliminary investigation was conducted. This might involve a review of available statistical information, current literature, consultations with employers and trade association personnel in the field as well as employment agencies, training organizations, or any others with some relevant expertise. If neither the number of job opportunities nor the need for training was sufficient to appear to justify further study at the time, no further investigation was undertaken.

Six of the 17 occupations or industries reported on in this volume are a result of this kind of limited study. They include Computer Occupations, International Banking, Warehousing, Travel Agencies, Energy and Related Occupations, and Cable Television. All of these fields bear watching because change appears the more likely prospect. But among them, special attention should be paid to those that are more affected by changes in technology, public policy, or both.

For the eleven areas that were studied more intensively, the convening of a Task Force was as usual the preferred method. Task Force discussions following individual consultations to identify the major issues or points of disagreement have proven their value in the richness of information obtained and also as a way to reconcile or explain different viewpoints and move toward a consensus. Moreover, challenges by peers are more likely than other investigation techniques to penetrate beyond cliches or stereotypes.

Task Forces, therefore, were convened for all but three areas. The survey of small manufacturing firms was planned in advance as a field study, not only because of the assumed resistance of such employers to leaving their businesses and attend a Task Force meeting, but also beceuse the variation in businesses did not seem likely to provide a sufficient common basis for discussion. Social service agency personnel also protested that they were "too tightly scheduled for another meeting," but also vary widely in the nature of their work. LMIN's experience is that employers engaged in different types of production or service are unlikely to become a cohesive and therefore fruitful Task Force. The final exception was Word Processing in the Public Sector. The reasons in this case were a reluctance on the part of agency personnel to make public their perceptions, and again a certain lack of similarity in their activities and in the working environment.

The eight areas in which Task Forces were convened were:

Clerical Occupations (Two sessions, a re-convening of the 1978 group and a newly organized one)

Office of the Future

Freight Traffic

International Trade

Customer Contact

Audio-Visual Occupations

Print Traffic

Dental Laboratory Technicians

## 2.

# Data Collection

# OFFICE WORK

In two previous years of study LMIN had covered the basic categories of clerical and other non-professional office work, as befits a focus on pre-employment training for a City in which such jobs are about a third of all employment. Seemingly, it was time to turn elsewhere, even if those opportunities are not so numerous. A growing awareness, however, of the speed with which changes have been occurring in the labor market dictated a need for caution before this very basic work category could be set aside as "covered." The caution proved to have been worthwhile, as the following studies will indicate. The experience also underlines the need for continuing awareness in research and training related to employment that anything accustomed, accepted, and comfortable must at least be suspected as being out-of-date.

# CLERICAL OCCUPATIONS REEXAMINED

## The Emergence of Word Processing

In 1978, the first Task Force convened by LMIN focused on the traditional clerical occupations - from mail clerk and messenger through to stenographer and secretary. The picture of office work that emerged from this Task Force's discussions was one of widespread employer discontent. The participants, who represented some of the City's largest and most prestigious employers, reported that they were plagued by serious qualitative deficiencies among entry-level job applicants that made them an unstable and only marginally productive group, and by an actual shortage of candidates for the upper-level positions. Similar problems were reported by two other Task Forces that dealt with special aspects of office work - one devoted to the banking industry and one concerned with computer-related occupations - and as well by those concerned primarily with service or manufacturing jobs.

These complaints were hardly new. Of greater interest were the strategies being adopted by employers to overcome them. Typical were the lowering of some hiring requirements, for example typing speed, the provision of in-house training in technical skills and also in basic education, and the waiving, where possible, of requirements such as stenography. These policies did not change materially the structure or the nature of the jobs or alter the labor supply pools from which the clerical labor force was being drawn. But other policies, such as the increasing use of technology and the restructuring of some jobs as temporary or part-time, threatened to do both.

By 1980 there was some statistical evidence of changes in clerical employment in the City. It should be noted, however, that these data may be as reflective of changes in job titles as of actual numbers of workers employed.* However word processing, not as yet an occupational classification in official labor statistics and only briefly discussed by the 1978 Task Force, had apparently become a significant factor in office work. Not only did word processing then occupy considerable space in classified advertisements, but it had become the focus of numerous associations and publications, the exclusive concern of some employment agencies, and even the occupational target of training proposals offered to the Department of Employment.

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* The following table gives some indication of shifting in clerical employment in the last two years. The data are based on the BLS Area Wage Surveys, which sample firms employing 50 or more workers in wholesale trade, finance-insurance-real estate and services (hotels and motels; personal services, auto repair, rental and parking; motion pictures; nonprofit membership organizations except religious and charitable organizations; engineering and architectural services) and firms employing 100 or more in manufacturing, transportation-communications-public utilities and retail trade. The occupations were defined to cover specific bands of work levels; hence, the data do not necessarily cover all workers in a given occupation.

| | 5/80 | 5/79 | 5/78 |
|---|---|---|---|
| Secretaries | 34,415 | 33,438 | 33,384 |
| Stenographers | 2,194 | 3,379 | 4,097 |
| Transcribing-machine typists | 541 | 481 | 557 |
| Typists | 7,501 | 8,256 | 9,593 |
| File clerks | 3,856 | 4,246 | 4,205 |
| Messengers | 4,096 | 4,292 | 4,156 |
| Switchboard operators | 2,035 | 2,156 | 2,126 |
| Switchboard operator receptionists | 1,208 | 1,293 | 1,420 |
| Order clerks | 1,421 | 1,943 | 2,205 |
| Accounting clerks | 10,098 | 10,820 | 12,517 |
| Bookkeeping-machine operators | 494 | 596 | 664 |
| Payroll clerks | 1,137 | 1,223 | 1,374 |
| Key-entry operators* | 5,982 | 6,173 | 6,449 |
| Machine billers | ina | ina | 283 |

*Includes keypunch operators as well as disk encoders and key-operated magnetic tape preparers.

One reason for reconvening the Clerical Occupations Task Force was to learn whether word processing was affecting the hiring practices and training needs in office work. The already discernible impact of the use of word processing on other office occupations would be of interest and might be indicative of the consequences of increasing office automation. These considerations, as well as more general questions concerning the effect of the current recession and inflation on the demand for and supply of office workers, left LMIN determined to reconvene, if possible, the 1978 Task Force.

## Constructing the Task Force

The first step was to hold a series of consultations with some of the original participants. Five of the thirteen original members were still with the same company and in the same department. For the others it was necessary to make contact with their current counterparts. Unvaryingly, the response to the question of whether sufficient changes had occurred in clerical employment to warrant updating the 1978 report was unequivocally in the affirmative.

The changes cited include the continued erosion of lower-level office job openings, the worsening of the secretarial shortage, the expanded use of temporary employees and, most often, the impact of increased mechanization. "It's hard to find many clerical workers who do not work in direct contact with a machine or who do not have some electronic equipment on their desks." Often, the electronic equipment cited was word processing.

### The Task Force

All companies represented in the 1978 Task Force again agreed to participate. In view of the focus on word processing, however, and the wide variations in systems and staffing patterns in use among this group, LMIN determined to enlarge the Task Force by adding to it representatives of organizations with a significant stake in this activity. The resulting group was virtually doubled in size. The added participants represented companies which had been represented in other LMIN Task Forces as well as particular segments of the financial community, law firms and legal departments of large corporations, all of whom were reputed to be among the major users of word processing. The New York chapter of the International Word Processing Association provided assistance in identifying those who would present different patterns of use. In addition, some word processing service bureaus were consulted and in some cases invited to participate.

To accomodate the full group, two sessions were held. Both followed the identical discussion outline. The intent of this outline was to provide an update on the full range of clerical occupations and consider word processing in the context of the total work structure, but it was word processing that became the central focus in both groups and all other occupations were discussed largely in terms of their relationship to it. Whether this emphasis resulted from the presence of several word processing specialists among the participants, or from the current climate that focuses on automation and the challenging questions arising in a new field, is unclear. But what is clear is that consideration of word processing as it affects the office environment can provide insights into both immediate and future issues that should be of concern to educators and trainers.

For one, the time frame within which word processing has developed to its present stature is so brief as to raise questions as to how far off the "office of the future" may be. Only one of the original Task Force participants represented a company that in 1978 made fairly substantial use of word processing equipment. The majority of the Task Force then viewed word processing with considerable diffidence, anticipating resistance to its introduction on the part of secretarial personnel and executives. They believed that this equipment would be useful mainly to companies with special requirements for heavy text production. In 1980, the only participant from a company not already among the users of word processing reported that the company is studying it and planning for its adoption in the coming months.

## The Status of Word Processing

No precise data is yet available to indicate the magnitude of the current use of word processing in New York City.* The only surveys found were national in scope. One was a survey of readers of the magazine, Word Processing Systems, and the other of members of the International Word Processing Association. Both found that there had been considerable growth, and that the growth was a recent phenomenon, with many users reporting that the equipment had only been introduced into their organizations within the past year or two. Although the median size in terms of numbers employed in word processing centers was still small (estimated by one survey at fourteen persons), it had grown considerably in the past few years. Both surveys indicated that by type of equipment and method of staffing, word processing centers were extremely varied. Furthermore, the user community was not limited to companies of any particular size.

These findings were largely substantiated by LMIN's interviews in fifteen private employment agencies in the New York City area, including some that specialize in word processing placement. They too reported considerable increase in demand for word processing operators from organizations of all sizes. One agency's placement specialist commented that the demand tended to be a factor of the type of organization rather than its size, with the prime users among financial, legal, accounting, communications, research and consulting firms, hospitals, and government agencies. Determining considerations, she said, are whether "the business is heavy into research or writing, or secretary-intensive, or uses charts and graphs that need to look professional."

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* It has been said that nationwide there are fewer word processors installed each year than there are IBM typewriters stolen.

In April, 1980, the New York City office of the New York State Job Service notified employers that it was establishing a new job placement service for permanent and temporary word processing positions, and asked for a response to a questionnaire concerning the nature of word processing equipment in use. The responses, mainly from law and accounting firms, publishing and financial organizations, confirmed the recent nature of this growing occupation and also indicated that company size is not the determining factor in whether this equipment is in use.

## Word Processing As an Occupation

In all likelihood, the number of word processors in New York City at present is small in comparison with the numbers in such traditional occupations as clerk, typist, or secretary. But their impact on the clerical environment is apparently far greater than that number might suggest. The systems manager of a major New York City bank analogized word processors of today to the programmers of yesterday, "an overpaid, fought-over and pirated commodity." This analogy, while not entirely appropriate, is a useful tool for understanding the word processing job. Unquestionably, it is a glamour occupation at present and its glamour, just as in the case of the programmer, tends to obscure the fact that its actual nature depends on such factors as how it is structured within any single office, the equipment used, how the jobs are staffed and what the operator's work actually entails. Furthermore, because the occupation is so new or because the technology itself permits adaptation to individual organizational needs, or both, all of these conditions were found to vary widely among the organizations represented in the Task Forces. But none of these factors varied more widely than the actual work done by word processing operators. It became clear that the title "word processor" subsumes a wide range of activities.

## The Structure of a Word Processing Facility

In some organizations, word processing is housed in a central facility while in others it is totally decentralized, with each department or division responsible for deciding whether or not to use word processing, what equipment to purchase, and how to staff the operation. In addition, some organizations operate a main center available to all users, with satellite centers for users who require a steady flow of information such as legal, research or statistical reporting departments.

The structure is to some extent related to the significance of word processing to the organization. In companies where it is already a central facility, such as law firms and some corporate headquarters, it is quickly replacing, if it has not already replaced, the typing or steno pools. For example, in one company there are only a few holdovers of former clerk-typists. They use a typewriter no more than 40 percent of their time. Where the system is decentralized it is often not yet a major factor in office work. Indeed, decentralization was the policy adopted in order to "soften the resistance anticipated on the part of managers and executives - and now our president wishes he had planned it as a unified system. The sheer variety of equipment and hiring processes in use is uneconomic."

## The Equipment Used

The sophistication of the equipment in use, as might be expected, correlates to some extent with the length of time word processing has been an activity in the organization. The range of equipment currently in use includes so-called blind systems, video display systems - half-screen or full-screen - standard or specially programmed equipment. It can have levels of computerization. It can be standalone (a single station word processor) or a shared-logic system (equipment that shares the processing power of a central computer). Examples of all of these types of equipment were in use by one or more of the participants. Some still prefer the Mag II, or "blind" system, for certain operations because "it takes up less room and gives off less heat and glare," but mainly because in this instance "the manager wants the secretary to add word processing to her battery of skills." Others no longer call the Mag II a word processor. In addition to this variety, there is a gray area of other devices that may or may not be considered word processors, such as automatic typewriters with a partial video display.

Additionally available features of each vendor's equipment add further complexity to the field. Whether these systems are already sufficiently compatible to allow relatively easy transition for operators from one to another, and whether in the future there will be fewer systems in use, are open questions. The Task Force agreed, however, that the trend is toward increasingly complex equipment. As the manager of one law office system said, "We started by choosing the equipment that facilitated the transition for our secretaries and have gradually introduced more sophisticated versions. Like many others, we are moving now toward a totally computerized process."

## Staffing Word Processing

The in-house secretarial force has been and in many cases still is the major source of word processing operators. Secretaries were thought to have the requisite combination of skills for word processing. But because it was anticipated that they would resist the transfer to a "production-type job" they often were given the choice of two routes, correspondence secretary (or word processor) or administrative secretary. This two-track system resulted in a redesign of the secretarial role and also established the word processor as roughly equal to the private secretary - in the top category of clerical workers. This system, however, was not used universally. Among the participants there are examples of companies that established the word processing service as either an entry level for secretaries, the first step on a secretarial promotion track, or as an entirely separate entity with no particular relationship to the secretarial force.

## Secretarial Response

Several participants made a particular note of the "surprising number of secretaries who chose the machine-oriented route." Whether they were attracted to word processing because it was new and therefore challenging or because secretaries are not as attached to the one-to-one relationship with a principal as has been believed, is unclear. More often, however, the real resistance to word processing is found among managers and executives. For example, the one company among those participating that has not yet introduced word processing to any extent, and now is "feeling the pinch" and therefore becoming more interested in new equipment, confirmed this viewpoint. "Our main task has been to educate managers to the benefits of technology. Once they were forced to cut back on hiring and restricted as to the number of additional personnel allowed, they became more receptive."

Incumbent secretaries continue to be the major or even the sole resource in some companies because so many are eager to be trained as word processors. One office manager said, "They call and ask me if they can come for training at lunch hour or after work because they don't want to miss the boat." And the secretary who is interested in word processing can be right out of school or much older.

In a few of the companies represented, word processing training opportunities have been expanded to include selected typists or to allow employees to apply for posted openings. The focus in hiring continues to be on qualified clerical workers of different skill levels, some of whom will be eligible for word processing training. In other words, among most participating companies little if any hiring is directly concerned with staffing word processing.

## Recruiting Trainees

Only a few participants reported that they have begun to recruit word processing trainees specifically. As one said, "We have all but exhausted our supply of secretaries who can be spared from the traditional secretarial role and our other clerical employees have neither the typing skill nor the language ability to be trainable." This company prefers to train rather than pay the premium for experience which may or may not be relevant to a specialized system and "is not always the same thing as proficiency."

## Outside Recruiting

Recruiting word processing trainees, however, is apparently easier than recruiting qualified typists and secretaries, especially when the secretarial requirements include stenography. Word processing, it was said, attracts not only experienced secretaries but a new pool of better-educated candidates, many of whom are college graduates or even former teachers.

College graduates, mainly women but including some men, predominate among the applicants for word processing training. They are more likely than high school graduates "to be tuned in on new occupations and attracted rather than intimidated by new technology." Moreover, "there are plenty of liberal arts college graduates who are finding it difficult to secure employment, especially those who majored in communications, fashion design, or education." Some companies will not hire college graduates for these jobs, fearing EEO problems or not wishing to waste training time on candidates who ultimately may consider themselves over-qualified for the job. Others said that given a choice between equally qualified college graduates and high school graduates, they might prefer the latter, "but we are rarely forced to make that choice. The high school graduates are not only fewer among the applicants, but also don't meet our minimum typing standards or scores on a clerical aptitude test."

## Demand For Experience

Among some organizations that might prefer to train their own personnel there are some who have come to rely mainly on experienced operators. Law firms, for example, are often in this category. They may have trained in-house at the outset, but they now concentrate on recruiting experienced operators - experienced not only in the particular system being used but in legal work as well. Some occasionally will train an unusually qualified incumbent, but more often in-house training now is restricted "to the executive secretary who may occasionally be called upon to fill in."

Employment agencies report that organizations with a relatively small office force and therefore few word processing machines - smaller professional offices or research organizations - also look for experience. They wish to avoid tying up a machine for the months it may take to develop an inexperienced operator to the level of speed and quality that is acceptable. Additional demand for experienced operators comes from the proliferating word processing service bureaus. These are either general service bureaus that provide word processing capability to firms without their own equipment or to well-equipped companies with sporadic peak needs, or specialists in some particular form of word processing.

Service bureaus as well as law firms and law departments of major corporations often not only employ full-time, permanent, daytime operators, but also regular evening, night-time, and week-end shifts, as well as occasional free-lancers. The larger law firms, for example, frequently have three full, permanent shifts as well as weekend personnel. Again, it is experienced workers who are sought for these extra shifts and free-lance work.

The supply of experienced workers is understandably tight. When asked for the source of such personnel, one law firm office manager responded, "other law firms." It is this experienced category that is the "fought-over group" and who receive the $350 to $400-a-week salaries.

The market is reportedly inundated with people who call themselves word processors, having had some perfunctory training and are the "equivalent of the automobile driver who has just received enough instruction to be able to take the license examination."

## Training Sources

Until recently, the principal trainers have been the vendors of word processing equipment. They provided to a selected number of a purchaser's personnel brief basic programs of instruction. In some cases they provide the same service to outsiders for a fee. Vendor-provided training usually takes one or two days and equips the operator only for the simplest tasks. For more sophisticated work, such training must be followed by in-house, on-the-job development. Currently, it was said, some vendors are cutting back or eliminating training services that they provided originally as a marketing strategy. The basic training gap is beginning to be filled by employment agencies, community colleges, and private secretarial schools.

None of the participating companies had any experience with an outside training source. One company contemplated recruiting the graduates of a private school word processing program, but "dropped the idea when we learned that the whole of the training process was the use of selfpaced taped instruction. They wouldn't know anything. It takes a good supervisor to see that the instructions are understood."

The report from employment agencies was that graduates of such programs are generally hired as trainees rather than as experienced workers. Employers who are willing to pay the price for experience demand six months to a year of work on particular equipment.

Despite the tight supply, the minority of participating organizations that depend on experienced operators did not complain of a shortage of job applicants. Many of the free-lancers are full-time employees elsewhere or are the "early birds who were trained in-house somewhere and now operate on their own." Another comment was, "The supply of word processors is far better than the supply of secretaries."

## Word Processing Functions

There is a tendency to describe word processing as though it is a single-function, undifferentiated occupation. Obviously, this is not so. Some differences are a function of the level of sophistication of the equipment used or whether the operators work from oral tapes or written hard copy, on original inputs or revisions of already typed and scanned material. Others are determined by the products to be processed and by the process itself. These can range from simple form letters with only minor variations to editing texts of extraordinary complexity or designing altogether new material. In addition, there are variations in the relationship of word processors to users of the products. In some cases the supervisor of a word processing center serves as the liaison and operators have "little relationship with either peers or bosses." In others, the operators work as teams and negotiate directly with users to establish priorities, suggest different approaches, and even initiate the contact.

The consensus was that word processing subsumes a range of functions equivalent to that spanned from the entry-level clericals to the executive secretary. The work performed within any one organization or by a single word processing center may not span that range of possible activities, but rarely is it at only one level. Nevertheless, in some organizations all operators with the exception of beginners are expected to perform the full range of work performed in-house and presumably are rated equally.

In many centers, assignments are made on the basis of the availability of the operator, with modest allowances sometimes made for skill differences or preferences. There appears to be a growing tendency in the larger installations to take cognizance of skill differences by specializing the operators at a particular level. For example, in one company the word processors in each department are given different rankings in the clerical hierarchy, depending on the level of work performed in that department. Another classifies all operators into three grades, beginner, advanced, and expert, while another has at least that many levels within the expert category alone. Recently, one major user constructed a whole scheme of gradations from the simplest and most routine work to the uppermost level, at which the operator is required to have the ability to design a wholly new brochure and program the equipment accordingly.

## The Office Hierarchy

Given the variations in function it is not surprising that there are considerable differences in the status of word processing and how it is ranked within an office hierarchy. Some participants, but only a few, perceive word processing as a factory-like, impersonal occupation. But the majority deny this. Only when the capacity of the equipment is grossly underutilized, they said, does this obtain. "This is a distorted view of a versatile and challenging type of work," was a typical reaction. Nevertheless, in some organizations, word processing operators are regarded only as a somewhat upgraded version of the pool typist, or as entry-level secretaries. At the other extreme they are considered the elite of the office force, superior in status to all but the private secretaries of top executives. In the majority of participating companies word processors seem to be equated with middle-level secretaries, an appropriate classification if, as one expert said, the majority of operators in this City stand somewhere in the mid-point of the potential skill range. "Few are true experts and, in general, the technology is way ahead of the users."

The differences in function and in status are reflected to some extent in salary scales. In some companies word processors have no particular monetary advantage over secretaries. In others word processors are paid somewhat more as compensation "for a production-type job." The expert operators, especially the ones who work free-lance, may be among the highest paid workers in the office.

## Qualifications for Word Processing

Although from the outset it was assumed that good secretarial skills were the basic qualifications for word processing, there was an awareness that other factors are involved. Currently, although the experience of many of the participants is limited and confined to relatively few operators, managers already are questioning the precise relevance of typing skill and beginning to define those "other" factors. It is still generally accepted, apparently, that "you can't make a good word processor out of an unqualified secretary." But some are beginning to recognize that "there is more to it than just secretarial ability. Among good secretaries some can pick up word processing skills on their own and move on to become the real experts. Others just can't make it." Even among secretaries who elect to become word proccessors there are some who, despite an eagerness to learn, never advance very far.

None of the participants saw any correlation with such factors as age, sex or years of schooling. Although it is more often the older secretaries who resist change, "this is not so much a matter of age but of individual attitudes. There are older secretaries who have become top word processors." Although there are more college graduates applying for jobs as word processors than for most other clerical jobs, no one suggested that it was the college education *per se* that determined their aptitude for this role.

## Typing Speed

Almost all participating organizations use typing proficiency as an initial screening criterion for word processor trainees. The required or preferred speed ranged from 35 to 70 words per minute, a range that suggests some doubts about the relevance of typing speed to word processing. There were some who maintained that typing 50 to 60 words per minute at least is essential. Others, while acknowledging that some level of typing proficiency is a factor, feel that speed has been overstated. "We used to look for 70 words per minute; we know that's not necessary now and have reduced our requirements to 50. But is 35 or 40 enough?".

Is it? According to some, it is indeed enough, and even preferable to speedy typing. One participant said that the rapid typist may be more difficult to train. The feel and design of the word processing keyboard differs sufficiently from the typewriter to make it "necessary to slow down in training in order to retrain yourself to the new touch and shape. Afterwards you can speed up." Another agreed, saying, "it's easier to teach the 35 words per minute typist than the fast typist." Speed produces nothing but errors initially. This was corroborated by some who noted that experienced word processors will type more slowly, a consideration that is allowed for when testing candidates purporting to be experienced operators.

No total consensus on typing speed was reached at either session. The differences in opinion were attributed in part to differing experiences in what is, after all, a new activity. "Most of us have only trained experienced secretaries who naturally were pretty good typists. We would be unlikely to use the machine time in training, let alone the personnel time, for someone we would consider a poor risk." Some believe that the relevance of typing skills depends on the type of work the word processor is doing. "Speed," it was suggested, "has more significance for original inputting than for revising or editing." But this was questioned by the representatives of law firms and special text editing services, who said they require and demand the higher speeds.

What seems likely is that there is a clear relevance to word processing in basic keyboard familiarity and the manual dexterity required to develop adequate speed and accuracy - the company that required only 24 words per minute for typists found it necessary to raise this standard to 35 for word processing trainees - but that typing ability is only one factor and not necessarily the controlling one.

Some typical excerpts from the discussion of typing suggest some additional considerations:

- You can't just be a good typist - you need to have a liking for machinery.
- The good office worker - the problem solver, the type who really wants a challenge - not just a typist, is what we are looking for.
- I don't give a typing test - instead I test their proofreading skills - a better test of the ability to spot errors. As long as they have basic keyboard knowledge, the speed will improve.
- I would not necessarily choose professional typists. No word processor sits and types all day. I'm looking for a complex of skills.
- The employment office tests for typing. As a word processing manager, I look for flexibility and the ability to work with others.

There was a thoughtful silence when one participant reported training two employees, neither of whom had any typing ability. One was a receptionist and the other a clerk. Both became proficient word processor operators. She acknowledged that this was unusual. But both employees displayed "all the other qualities that we look for."

## Other Qualifications

Uppermost among those "other" qualities, according to many, is language skill. In various ways, it was said that the typist who can only copy and does not have a good command of standard vocabulary, grammar, spelling and punctuation is not acceptable. "I can teach typing, but I cannot get someone whose language is at a 'dese and dose' level to speak correctly."

No measurement of the language ability needed for word processing exists. Some companies routinely test all clerical applicants for vocabulary and spelling, but beyond such general measures, the determinations are purely subjective and equated roughly to the level demanded of a good secretary.

Some consider language to be a correlative of education level, but others demur, citing the abysmal language skills exhibited by many college graduates.

But not everyone focused on language. Some said that it is intelligence and the ability to think logically rather than language that counts. "If the thinking processes are in order, working as a word processor will improve the language." Others noted that major vendors "recognizing the reality" are scaling down their instructional manuals for word processing equipment to a seventh-grade reading level.

While according to some participants this is dismaying, there were others who noted that the average reading level in the United States is fourth grade; seventh grade is the level demanded to read The New York Times. Furthermore, it was said, new equipment coming on the market has a built-in dictionary of 50,000 words or more, capable of identifying incorrect spelling.

Finally, one participant said that it is possible to overstate language as well as typing requirements. Again, the degree of skill needed depends on the work to be done. Much of word processing is routine form letters or working from "hard copy" that only requires machine skills.

Ultimately, it was generally conceded that both typing ability and language skill are needed to master the basics of word processing. To develop beyond the basics, however, demands qualities less easily measured. Several participants acknowledged that the selection process was difficult and that more often only during training could they determine who is likely to progress satisfactorily.

## Machine Orientation

High among these qualities is machine orientation. Whether this is an innate or acquired characteristic is unclear and it was hard to define. But it is manifested in the reaction among potential operators to word processing equipment. "We just put them in front of the equipment and see what questions they ask." Although not implying any significant mechanical knowledge, machine orientation is something more than just liking machines. It is seen as connected with such attributes as flexibility and creativity, and typified by the person who can ask, "What can I get this machine to do for me? How many shortcuts can I devise? How can I program an entire format so that all that needs to be entered are the items that actually change each week or each month? Can it do all the needed calculations for a chart so that it can be read horizontally and vertically?"

In any word processing function there are usually several possible ways to achieve a desired result. Training might only deal with one way, but the true technician, after some experience, will probably do it differently. Creativity, it was said, is not just a matter of the appearance of the project, the aesthetic values, but affects the speed and efficiency of output. It is a matter of "pushing the use of the equipment towards its limits."

One participant cautioned that there is a tendency to overestimate the machine skills and to neglect the "people skills." In her organization good operators actually promote new applications and "drum up trade." Obviously, the significance of interpersonal skills depends on the kind of work to be done and the way it is organized. Often the word processor relates directly to several users. Even where they are separated from the users they must learn to function as a team. "In contrast with the typing or steno pool, in a word processing center you share printers, the data base - you sometimes edit someone else's work. It's teamwork. I have had bad luck with good operators who couldn't make the team." One participant summed up the discussion of qualifications by saying that there is a progression from general secretarial skills to special technical skills and then to a merger of technical and interpersonal skills as the word processor moves from simple work and simple equipment to more sophisticated processes and equipment.

## THE IMPACT OF WORD PROCESSING

Asked to assess the effects of word processing on the office environment, some responded by discussing its impact on management. "Word processing is helping us to focus on the job and executives have to roll up their sleeves too." Or, as another said, "It forces us to do a better job of management of the office, and that means personnel management, as well. This democratizes the process so that an operator can say to an executive, 'As long as we're doing one thing wouldn't you like another thing done as well?'."

Others were interested in the effect on employment. There was general agreement that word processing equipment itself is efficient and has increased the productivity of its users. Beyond this, opinions varied. Some reported no reduction in in overall office employment within their organization:

- The net impact is the same number in total, with word processing replacing the pool.
- The usual axiom - that automation reduces the numbers needed - is erroneous. An office differs from a factory. The work becomes speedier and more sophisticated and as a result the same numbers are needed of better-trained people.
- We do more in-house. Our word processing center has grown from five to 41 in a few years, with 20

additional satellite centers throughout the organization. We now do in-house high-quality jobs that formerly went out to printers, and thus provided additional and more skilled jobs.

- It has cut the labor cost but increased opportunities.

Others, however, saw it as reducing the total:

- Not only has it changed the nature of the work - but reduced the numbers employed.
- In every case purchase of new equipment has been paid for by staff reductions, and word processing is no exception.
- Our surplus of clerical workers were not terminated but reassigned, and the end result is that there is no need to hire new people - even for word processing.
- The quantitative impact is enormous - a good word processor can outproduce three to four good secretaries.

Participants differed also on the effect word processing has had on various occupations within the clerical force. For example, one participant said, "The conventional clerical track doesn't exist any more. We have few file clerks and almost no typists." Another said, "We are not hiring secretaries any more but we will always need the clerks and go-fers."

## The Lower-Level Jobs

Relatively little interest was evinced in discussing the lower-level jobs. Some reported an actual decline in the number of applicants for clerk and typist jobs in the $9,000-$10,000 range. The local New York State Job Service agrees, reporting that it is unable to make referrals because so few applicants are interested in jobs at this salary level. But the major problem concerning these categories is still the quality of applicants, which may be another aspect of the wage issue. "We are still struggling to find a typist who can type 24 words per minute."

There were some who were able to supply examples of a gradual decline in the number of openings at these lower levels:

- a declining need for messengers as a result of the introduction of electronic mail.
- similar cuts now and in the future in the number of file clerks as data processing systems do their own filing.
- improved telephone service that reduces the need for switchboard operators.
- elimination of receptionists on each floor and substitution of a self-announcing system for visitors.
- potential cutback in the number or data entry workers needed as customer-contact personnel make entries in their own CRT terminals.

None of the above were seen as dramatic in impact. They were perceived rather as part of a general thriftiness occasioned as much by the recent recession and inflation as by the introductions of new forms of office automation.

## Temporary Employment

More significance was attached to the increasing use of temporary and part-time employment. The principal reasons for temporary employment in 1978 - the hope of reaching a better-educated and more stable employee group for entry-level jobs and the avoidance of turnover and benefit costs for jobs requiring relatively little skill - still obtain. But restructuring jobs as other-than-permanent is becoming an institutionalized practice either by setting up an in-house temporary employment service or by contracting with an employment agency "to put our employees on their payroll," a policy called PTP (Payroll Transfer Plan).

Additional reasons reinforce this policy. The recession and the increasing reliance on office technology were cited by employers and employment agencies. Cost-conscious employers, it was said, faced with an uncertain economy, hesitate to add permanent staff. They use temporaries to handle spurts of activity or special projects as, for example, the installation of a new filing system. Temporaries are also a method of trying out candidates for permanent placement. The latter practice is encouraged by the temporary services that make no charge when a temporary worker becomes a permanent employee.

Certain forms of technology create their own demand for temporaries. For example, records management - the purging and microfilming of files, a process spurred by the rising cost of office space - is handled frequently by temporary crews with special supervisors supplied by the equipment vendor. The greater frequency with which new equipment and systems now are introduced creates readjustment problems of short duration and uncertain quality for which temporary workers provide an economic and less threatening solution than reassigning long-term incumbents.

The growing tendency to turn to temporary sources is such that at least one company had taken steps to control it by requiring a review after 90 days of each temporary hired.

### Temporary Word-Processors

While temporary employees still are engaged mainly for the lower-rated jobs, messengers, clerks and clerk-typists, in some instances temporary workers are becoming a factor in specialized and more skilled office work, notably transcription typing, word processing and occasionally also secretarial work.

Like their counterparts in permanent employment, the temporary word processors are often among the elite and the highest paid temporary office workers. A skilled and experienced Vydec operator can earn as much as $22 an hour for weekend work. Although some employers complain of the poor quality of word processing temporaries and others maintain that they are of limited utility to an organization with a specially programmed system, the demand for word processing temporaries appears to be growing. Some agencies report that as much as 50 percent of their word processing placements are temporary. Several have established training facilities in order to augment the supply of those already trained, offering training to already skilled typists of proven competence and adaptability. Another agency stays away from training word processors, saying that the demand for temporaries is for experienced workers.

Temporary agencies report that the supply of temporary clerical workers is growing to match the growing demand. In general, however, they remain relatively inexperienced and relatively low-skilled. For the most part, applicants for temporary work are really seeking permanent jobs. A growing number of the better-educated and skilled workers are using temporary jobs as a way to explore and assess the available permanent jobs. But students, unemployed actors and moonlighters, who are not seeking permanent work but are using clerical skills to sustain themselves while studying or to augment their current income, are still a major resource.

## Stenography and Transcription

The major changes in permanent hiring are the declining interest in stenography and the restructuring of the secretarial role.

Copy typists and stenographers are being replaced by transcription typists and word processors. Insistence upon stenography as a secretarial requirement is diminishing. This is only indirectly a result of the advent of word processing. The essential stimulants were the unavailability of stenographers and the increased efficiency of machine dictation. Added to these factors is the facility of editing and revising a draft to final form, without making new errors, that word processing affords.

How radical a change this is and how swiftly it occurred is apparent when current views are contrasted with those of the same Task Force in 1978. At that time participants said that stenography was the salable of skills and should be given much greater attention in all vocational education and training programs, not only because of its market value, but because the training is a powerful factor in improving language ability. When this was repeated to the 1980 Task Force, it was greeted by laughter. One of the participants reported that when she told a high school career day assembly that there is absolutely no requirement for shorthand in her company, the shorthand teacher said, "How can you say that," but the students were delighted.

In 1980 only a few of the participating companies still recruit stenographers or secretaries with stenographic skill, "And we have to beat the bushes - appear at the few secretarial schools that train a significant number on graduation day if we hope to compete for the graduates." More often, companies either do not require stenography or, if they do, do not use it. Some said the only time they look for stenography is when they need to find a private secretary for a senior executive or partner in a law firm who has grown so accustomed to having stenography that he "cannot live without it." This breed is dying out and, it was said, younger executives and lawyers are becoming accustomed to sharing a secretary with others, a practice that renders the use of stenography impractical, or to relying on a dictating machine. Consequently, "by the time a secretary is promoted to support an executive who wants and still gets one with stenographic skill, her skills are rusty and we have to pay for a brush-up course for her."

For the employer, dropping this skill eliminates the time wasted in having a stenographer sit while the boss conducts a lengthy telephone conversation. It allows "the results of yesterday's meeting to be typed while an executive is off on a business trip or out of the office at another meeting," and it facilitates recruiting. A satisfactory machine transcription typist needs only good typing skill and reasonably good language ability. The appropriate language level was hard to define or equate with any reading level, "It's not reading, it's hearing, and it may require more fluency in English than reading does." One company does use transcription as a selection instrument but most, however, feel the necessary fluency is detectable in an interview.

## Requirements for Transcription

The typing skill, vocabulary, and comprehension demanded for transcription typing may be greater than for copy typing, but not as developed as for the stenographer or private secretary. Whether used in conjunction with word processing or not, machine transcription produces only a draft that needs to be edited and revised. "So the commas and the fine points aren't that important - and the major share of responsibility for the quality of the final version shifts back to the author" who, it was said, may himself or herself need help with spelling and grammar.

The shift from stenography to transcription removes a barrier that was insurmountable for many. Typing, and even language ability, often improves in the course of working in an office, but stenography requires formal study and practice. Now, for those who acquire sufficient typing and language skills, the pathways to "better-paying jobs may be within the reach of the clerk, in theory, at least." Some participants doubted whether many clerks would become word processors, especially when they tend to cling to the traditional hierarchy and hope to be promoted to secretary or executive secretary, rather than word processor.

Transcription typing is the ultimate production job. As one participant said, "The pool is plugged in constantly except for coffee breaks." The job demands a tolerance for hours of earphones, but is attractive to those "who like to do a job and go home with absolutely no involvement."

## Transcription Training

Some companies offer in-house transcription training to principals as well as typists and, in some cases, to both as a team. For the typist, the training is focused on effective listening, "tuning in to homonyms, the agreement of parts of speech and common grammatical errors. It's a matter of getting your ears, hands and feet going together." Others add to this generalized instruction particular business or special vocabularies. On balance, however, the recruiter's job is apparently relatively easy compared with the continuing problem of attracting good secretaries.

## The Secretarial Shortage

The consensus was that the shortage of qualified secretaries is as acute as ever, if not worse. Employment agencies reported a diminishing demand but also an even greater decline in the number of applicants. This, of course, is especially true when stenography is required. In some companies where the two-track system is in effect, fewer candidates and fewer who are college graduates apply for the administrative secretary jobs than for the correspondence secretary.

One company that has had this system in place longer than most suggested that the changed nature of the job is not fully understood as yet. This company made the change more explicit by changing the title to group assistant and by devising a new job description. This places the job in the first rung of an administrative support system ladder, which is a totally new career path.

Some project a continued decline in the demand for private secretaries and believe that eventually there will be only go-fers, transcription typists and word processors. But some maintain that technology does not substitute for the secretarial role. "Still needed are the non-technical skills, the sense of order, organization and priorities." A study was cited that found careful screening of calls, scheduling of appointments and meetings, to be support services most likely to increase a manager's productivity.

In response to the shortage, a few companies are planning more intensive in-house training by expanding the scope of training from junior secretaries to any office workers with secretarial potential. Others anticipate that as it becomes better known that the administrative secretarial position is becoming a good training ground for an administrative role, there will be more applicants. "Now that the secretary has time to become involved in telephone conversations with customers, to gather or organize information of use to the manager and to make more input into managerial decisions, we are witnessing promotions from secretarial to administrative positions." Some notice that there are now better-educated applicants and among them more men - "and why not, at $20,000?" - but also a different attitude toward the job. These applicants,are looking at the job as a springboard to management. They assume more initiative and are quick to enroll in any available relevant course of study.

## Careers for Word Processors

There was little disagreement about the opportunities for word processors. One participant said, "Working with a machine is less of a management training opportunity than the one-to-one relationship enjoyed by the administrative secretary." But all the other participants consider word processing a showcase for ingenuity and efficiency and of the "I can do it - I can figure it out" attitude. Not only is there a growing hierarchy within word processing itself, up to and including the supervisor, but there are entirely new career paths.

In professional firms, such as law and accounting, the career path ends at the top of the word processing track, but elsewhere it can and does go beyond. One personnel officer said, "The word processors advance more quickly than secretaries - they have the rapport, the technology, the proven ability to pick up new skills. And if we automate other areas, the file room, for example, new opportunities arise. I have five openings in the word processing center right now because of promotions. In our word processing center, after six months you advance two levels and then on to group leader or to a mini-set and your own office. Your competence can be observed by those who use your services. When job openings occur that require adaptability and the ability to manage new equipment, these are the people who are sought."

Discussion concerning word processing seemed to engender a degree of euphoria among most of the participants. Only a few skeptics said it is too soon to assess how this particular facet of office automation will look in a few years time as it becomes a part of a larger and more inter-related information processing system.

## Implications for Training

To give the discussion of training a more concrete focus the Task Force was provided with the principal elements of three actual training proposals under consideration by the Department of Employment. The summary included entry criteria, equipment to be used, aspects of curriculum, and instructional method.

With respect to entry criteria the Task Force's seeming consensus was that training for word processing is best offered to those who already have office-work experience, keyboard skills, and an interest in acquiring the new technique. The participants also expressed a distinct preference for in-house training of selected employees, rather than pre-employment training, but offered some suggestions for pre-employment programs.

Entry into such programs will have to be more realistically based on language ability than is now the case, it was felt. Although each of the proposals specified a language level for entry, expressed as a grade reading level, the Task Force was unable to equate the needed language level with a grade-level of reading. Instead, its members insisted that trainees will have to have a good command of vocabulary, spelling, and grammar. In fact, one participant cautioned, "Don't put the cart before the horse. The horse is basic education - in this case in English - and the cart is skill training."

There was also agreement that entry should be restricted to those who already have "mastered the basics of typing." The necessary typing skill, however, should be evaluated not in terms of speed, but by whether it indicates that the applicant has the ability to deal with a keyboard and has that adaptability that is basic to the job of word processor. The Task Force felt that 30 words per minute would be enough speed at which to demonstrate the other abilities.

Turning to equipment, some saw value in exposure to a variety of machines but more often the recommendation was that training should concentrate on one model - preferably of the less-complex type, but nevertheless "state-of-the-art." Competence in one such model, it was said, would be transferable with relative ease to others of the same type, and the skills demanded by more sophisticated types can be added. They thought it unlikely, however, that any pre-employment program would be able to afford keeping pace with the frequency of model changes.

Whatever the equipment, they said, there are limits to what can be learned in a classroom. Although they had no quarrel with self-paced instructional materials, they felt strongly that these should not be the sole teaching method used, and that such materials should only be used under the supervision of a competent instructor. Although on-the-job training is best, they said, a well-constructed simulated office environment might be an acceptable substitute if adequately staffed. But like equipment, they saw staffing as a major problem. "Anyone qualified to be a supervisor or an instructor can out-earn what any training program could pay. Only by some special arrangement with industry could a program have the benefit of instructors on some kind of part-time basis."

With such misgivings, the participants suggested that if a pre-employment program is to be directed to word processing, it should be understood that the continuing focus of hiring in many companies remains the general clerical worker. Word processing more often is treated as an upgrading opportunity or as a specialized function restricted to experienced specialists. This was confirmed by many of the employment agencies consulted. "Eight out of ten employers say, 'just give me clerical skills and I'll teach them the rest,'" was the way one put it.

Additional evidence against pre-employment training in word processing came from the experience of a major employment agency. In 1980, unable to fill the growing demand for temporary word processors, this agency established its own school. It had available seasoned, top-flight secretaries who had been placed repeatedly and who were well regarded by the employers. Many were college graduates or postgraduate students, as is frequently the case with successful temporary secretaries. The school was set up on the assumption that such skilled office workers, equipped with word processing training, would be acceptable as temporary word processors. The potential clients had been surveyed about the equipment they had, and the tasks they would want performed, so that the training could be structured accordingly. However, despite these resources, planning, and access to employers, the program was a failure. By the time these workers were trained and available for assignment, the employers didn't want them.

"Employers seeking temporary word processors are interested only in experienced workers. Training just doesn't suffice. If experienced workers are unavailable the company will train selected employees who qualify. As a result, the market for experienced workers is rapidly becoming a market for temporaries to fill in for vacancies or periods of unusual demand. For permanent jobs the employers don't want to pay for experience but would rather promote their own employees. It's not only a boost to office worker morale, but more likely to result in stable workers since they are already acclimated to the company and will easily adjust to the new demands of the promotion."

As a result, this agency has changed its policy. It now advertises and offers "top dollar" to experienced word processors available for temporary assignments. And, it has transformed its school into a training facility for its clients' permanent employees. "The need for training is for upgrading rather than entry levels or new jobs." Vendors are restricting free training to a very few of the customer's employees. "They would like to get out of the training business and have become our (the agency's) best referral source." Employers who don't want to burden supervisors with the training function or to tie up expensive equipment for training are sending selected employees to the agency school.

The agency's experience underscores not only the need for a flexible policy with respect to training but also the growing significance in office work, as well as in other fields, of internal upgrading for higher skills, as opposed to pre-employment training.

## Clerical Skills

The Task Force's prescription for the general clerical training it preferred reaffirmed the recommendations of the 1978 group. The heaviest emphasis was on basic education. This was followed in importance by an introduction to business systems and procedures - "how the work flows from one desk to another, and what '9 to 5 and back to work after lunch' means." Next came training in the use of keyboards, coupled with "exposure" to the range of electronic office equipment, with stress on developing the much-desired "machine orientation."

The essential technical office skill would continue to be typing, but with a heavy emphasis on transcription typing from dictation tapes. Proofreading would also be taught as an ancillary skill. Typing from "hard copy" would only be used as an aid to instruction, because it is expected that demand for transcription typists will grow as oral communication - electronic mail and the like - become the mechanisms of intra-and inter-office relations.* Moreover, it was suggested, intensive listening to language, reinforced by proofreading, might be tools for improving language skills.

Word processing, in this conception, would be part of the introduction to electronic equipment. The objective, however, would be to develop understanding of the basic office systems logic into which word processing, with its range of functions, fits. Facility as a word processing operator would be left to skills upgrading at some appropriate time in the development of an office work career.

## Conclusion

In an era in which occupational training for disadvantaged populations is difficult and yields marginal results, the idea of "getting in on the ground floor" of a new occupation is understandably attractive. However, the logic of the cautions advanced by this Task Force should not be disregarded. "Since most of us prefer to train our own, and those who hire outside their own office require a lot of experience, who will hire these graduates?"

On the other hand the preference for in-house training, which was begun as a matter of necessity, may now be simply a habitual way of operating. There were some in the Task Force who were less emphatically negative about word processing training, although they also felt it should come after basic clerical training and/or experience, and not as pre-employment training. Typical comments were:

- Graduates of such programs might be one step ahead of those we now train and thereby shorten the on-the-job training time required."

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* The optimism about the employment prospects for transcription typists has to be weighed against the prediction that it is only a matter of time until the technology is developed that will permit direct, mechanical transfer from oral tape to written copy - a voice scanner. Should that occur, transcription may become an obsolete skill.

- It's a growing skill; why not give people a chance - it might help them get a foot in the door? They might be hired for the simpler word processing functions."

The conclusions to be drawn from the information made available by this Task Force are hard to avoid. Training for word processors is best left to programs of skills-upgrading, and possibly to in-house training by employers. An introduction to the place of word processing in office systems is a worthwhile addition to the curriculum of a pre-employment program for basic clerical skills. A more legitimate, and not unrelated technical skill, which can be taught at the pre-employment level, is transcription typing.

Experienced workers taking skills-upgrading training, or exceptionally gifted students in pre-employment training, may have some prospects for employment in word processing, but should be instructed by the training to understand that they are going to have to compete for such jobs with "incumbent workers with proven track records, college graduates, or both."

Even if they should be successful in this competition, the training should make clear to them, they will only be employable as trainees in some employer's in-house training program. It will still be a matter of considerable time before they can become fully competent word processors.

# WORD PROCESSING IN THE PUBLIC SECTOR

The 1980 LMIN Task Force on Clerical Occupations, which focussed on word processing, found a sharp increase in the number of companies that employ word processing operators but little justification for shifting to an emphasis on word processing skills in pre-employment training by occupational education or manpower training programs. Because in the past these programs have relied heavily on public, rather than private-sector employment for their trainees, LMIN undertook to supplement the Task Force's report with a survey of the current status of word processing employment in City agencies. An additional interest was to gain some insights into the impact of word processing on clerical procedures in public agencies. Both, it was projected, would lead to implications for training in relation to this segment of clerical employment.

Instead of convening another Task Force, LMIN interviewed agency representatives. They included managers responsible for the selection of word processing equipment, consultants, word processing supervisors, trainers, and operators. The agencies by which they are employed included both "Mayoral agencies" under the direct authority of the Mayor, and those which have independent governing boards.

## Extent of Word Processing

In both categories of City agencies combined there were, at the time of writing, approximately 25,000 clerical workers. Counting memory typewriters, "blind" systems, and adaptations of data systems, as well as those systems more usually designated as word processors, there were fewer than 800 machines including both "standalone" and "shared logic" type machines. About an equal number of operators are employed. However, the City government was just beginning to systematize its training and use of word processors, both human and machine, and it was expected that by 1982 the number of both machines and operators would be about double, or roughly 1,500 of each.

## Selection and Use of Equipment

Some of the word processing equipment currently in operation has been acquired in a haphazard manner. It often lacks flexibility, cannot be updated, and is regarded as "operator unfriendly," a term used to indicate that its use is difficult to learn. Because operator training has sometimes been equally haphazard, some trainees have been unsuited to this type of work and others have left to market their skills elsewhere with no provision made for their replacement. As a result, some of the machines are underutilized or standing idle for lack of trained operators.

Where it is used, word processing is applied most often for heavy text editing, in the preparation of legal briefs, grant applications, and contracts. It is also used in correspondence and in the preparation of such repetitive material as forms, in the maintenance of personnel and other records, current status reports, tickler files, and inventory, price and mailing lists. In a few departments, special applications for word processing have been instituted, such as the application of specialized "software" for the preparation of complicated budgets. In terms of utilization there does not appear to be much difference between these public sector and private sector applications, although the latter may be more advanced in complexity and sophistication.

As part of the developing awareness in City government of the need for more and better utilization of word processing, more attention appears now to be paid in the selection of new equipment to ease of operation, as well as to whether a particular machine is appropriate for some of the special applications intended. For instance, requirements such as the size of a screen, or the printer best suited to budgets, tables or charts, is increasingly a key element in selection. At the same time, however, there appears to be a developing desire to have all

Mayoral agencies settle on the use of one system, both to facilitate training and to minimize maintenance and inter-machine compatability problems. However, whether such standardization will in fact be realized remains to be seen.

## Structure

In most of the agencies consulted word processing is decentralized, with each department deciding how it is used, whom to train, how to assign the work load, and often what equipment to purchase. One agency official cited difficulties in "finding a single administrative unit willing to take responsibility for word processing" and proceeded to describe long standing interdepartmental jurisdictional disputes which have impeded maximum utilization of data processing as well as word processing equipment. And, in contrast to developments in the private sector, word processing rarely involves the separation of administrative from correspondence functions. Word processing is used most often as a "work station support" in lieu of ordinary typing. Alternatively, it may be clustered in satellites in which workers are grouped together in units.

One agency department classifies its word processing operators according to their proficiency. Work assignments are based on priority and take account of operator ability, interest, and capacity. In this department proofreading functions are separated from input functions. Another department in this agency uses the team approach. When a difficult assignment exists, a meeting of word processors is convened to discuss the work and the assignment "emerges."

In a few of the agencies word processing operators are grouped in units of five to fourteen workers. Operators "input" material directly from handwritten or typewritten copy. Proofreading is sometimes done in a separate section or by a supervisor, but usually by the author. Only a few agencies have OCR (Optical Character Reader) equipment so most operators must input material manually before processing.

Another agency converted its typing pool to a word processing center. Material is typed into the word processor from hard copy (handwritten notes or typewritten materials) or transcribed from tape recordings. Assignments are made on a priority basis with work rotated among operators. The agency plans to separate administrative and correspondence functions in order to maximize the economic benefits derived from the introduction of word processing equipment. Therefore it has undertaken an administrative support assessment which involves measuring the administrative work performed by operators (answering telephones and taking messages, typing, and filing) as well as a space utilization study. Tentative plans project the reassignment of between three and five people per floor primarily to do correspondence.

In one of the agencies information is entered into word processors linked to a data computer. This system operates 24 hours a day and provides reports on the current status of the operation.

## Staffing

Incumbent clerical staff is today's major source of word processing operators. There is no civil service examination or title for word processing operators and experienced personnel are not recruited from outside the civil service. Some agencies prefer to train entire departmental staffs while other select trainees from among the available pool of clerical workers.

There is a divergence of opinion as to the relevance of typing skills for selecting a word processing trainee. Many select the best typists for training (i.e. those who type between 45-60 words per minute). In one agency, transcription typing became an additional prerequisite for training. Yet another agency considered typing skill *per se* almost irrelevant - "one of our best word processors is a two finger typist." According to one supervisor, for example, this is because an "ability to juggle things around compensates for slow typing." Paradoxically, however, when operators were asked to indicate which of their previous job duties they enjoyed most, the overwhelming majority replied "typing."

Many trained word processing operators described themselves (and were described by their supervisors) as "mechanical." Although difficult to define, "mechanical" appears to indicate a positive attitude towards machinery and a willingness to explore the capability of the equipment. In one instance an employee actually sought transfer to a unit that had a word processor; "the word processor was in this office first and she came here to learn it - to conquer it." Another common characteristic identified by supervisors and employees alike was motivation for self advancement. Interest and initiative were evidenced by the large number of word processing operators who voluntarily attended an in-house training course provided by one agency as well as by those who enrolled in evening classes at college. One employee noted that she had requested assistance from her supervisor in locating an advanced word processing/computer course.

Among the characteristics usually sought in trainees are general intelligence, good English skills, "positive work attitude," good attendance, reliability, accuracy, and patience. In departments which use complex applications of word processing, supervisors seek "someone with a broad vision" who can conceptualize the operation, is able to understand and use discs, and create procedures for identifying documents within the office (preparing a logical index).

One agency was in the process of training one of its CETA employees. This employee had originally been assigned to work at the switchboard "to see how he adjusts and responds to learning new skills." Having shown initiative and interest, the employee began training to operate a word processor.

## Training

Employees are apparently eager to receive training since "skill is the selling point and money is the ultimate incentive." The quality of training, however, varies significantly among the agencies. In one agency, training consists of showing trainees the equipment and then "literally throwing them on the machine." Most often, employees are sent to vendors for training or trained by listening to pre-recorded tapes. The in-house trainers are usually trained by the audio tapes or by vendor-provided instructors and may not be familiar with or even aware of all the equipment's applications. Funds for formal training, however, are difficult to justify in the agency's budget process. One executive desirous of developing an in-house training program noted the lack of funds and support for training and observed that "we would have to hide money for training in our budget."

Another agency, which needed a large number of trained word processing operators, created a short-term training program with the help of a consultant. The agency employed a trainer for six months and employees were trained in small groups of six to eight people using pre-programmed manuals. New applications were taught on an "as-needed basis" to trainees who were "ready to learn something new."

Some agencies assert that trainees can function productively almost immediately. Others estimate that it takes anywhere from a few days to several weeks of training for an employee to be truly productive. Although estimates of training time differ, it usually takes from six months to one year for operators to attain optimum utilization of the equipment. In one department, which has been using word processsing equipment for about nine months, the operators are still considered not fully trained because they are not familiar with all of the applications. In another department the poor performance of word processing operators was ascribed to their lack of motivation and incentive, as well as to the absence of any tangible reward. This unit as a whole is perceived to "lack any goal or objective" and seems to view word processing as increasing the unit's work load. As a result, user departments feel that they are not being effectively served.

## Civil Service Job Titles

To date there is no specific civil service title for word processing operators, although there is a proposal to create a series of such titles to correspond with levels of proficiency. Therefore, word processing operators are actually working in a variety of existing titles - office aide, office aide/typist, office associate, principal administrative associate, legal secretarial assistant, staff analyst. The title of office aide is at the lowest end of the spectrum. Basic clerical skills, knowledge of office practices, basic English skills - including vocabulary, spelling and reading comprehension - and basic mathematical knowledge are needed to pass this civil service examination. The office aide/typist title requires, in addition, the ability to type 35 words per minute with no more than 8 errors.

Most agencies have adopted an unofficial policy of re-evaluating and upgrading employees once they have acquired word processing skills. The union which represents these employees does not seem to have a clear policy for classifying or evaluating word processing skills. At this time union policy consists of negotiating with management on a case-by-case basis to upgrade job titles within existing classifications.

## Operator Morale

In general, word processing operators in the public agencies studied appear to be highly motivated, satisfied with their jobs, and performing well. This impression emerged from discussions with both supervisors and the operators themselves. Supervisors reported that many operators view the new technology as challenging and enjoy developing new applications. Word processing has reduced the routine clerical work load and at the same time added new and different functions. It is not uncommon for an operator to ask the manager, "Listen, do you think that we could do it this way?" In one agency, operator morale appeared to improve as a direct result of positive user feedback. Two agencies reported that unlike traditional clerical employees, word processing operators are willing to work overtime and weekends when necessary. This is all the more impressive in view of the absence of any provision for overtime pay for civil service workers. The operators' comments included:

> "I like doing something new;"
>
> "I like not having to erase and seeing the completed copy;"
>
> "I'm proud of it;"
>
> "I really get off on this. I feel fulfilled. I'd like to take a computer/word processing course. I'd even pay for it, if it was offered;"
>
> "Word processing is so much better for everybody - easier for the typist, easier for the drafter;"
>
> "I can do so much more with it."

## Impact of Word Processing

There is no agreement as to the long range impact of word processing on the size of the overall clerical work force. One agency representative said that it has not resulted in any reduction in the aggregate number of clericals employed nor does he believe that it will eliminate jobs in the future because the agency "was swamped with work and the work is still expanding." In this agency, word processing is used as a "cost avoidance measure." "It doesn't reduce the existing costs but it helps avoid increasing costs due to an expanding workload." Another agency says that the size of the work force has not been affected and does not foresee any change in the future. One agency official believes that word processing will ultimately reduce the number of personnel required, noting, "we're doing about four times the work with the same number of people." This view was shared by a union representative, as well.

Turnover is a serious problem for many of the agencies. In one agency the absence of civil service provisions which would compensate the acquisition of word processing skills has resulted in a 50 percent turnover; "for every two we train, one leaves for higher pay in the private sector." The Mayoral agencies project a turnover rate of about 25 percent annually. In fact, four of the larger Mayoral agencies lost every word processing coordinator on their staffs. One recently trained operator put it succinctly, "If I don't get a promotion, I'll go somewhere else and get it."

One reaction to the problem of employee turnover has been the creation of a word processing training center under the auspices of the Mayor's Office of Operations. Participating Mayoral agencies, working through the Office of Operations, lease identical equipment. The vendor in this case has agreed to provide training for a specified time period. The vendor-trainer will teach experienced employees of the agency staff the more complex applications of the system. These agency trainers will then train personnel from their constituent agencies at the word processing center.

Another possible response, civil service status for word processing operators, is addressed in a draft report entitled, "A Proposal For The Assignment And Compensation Of Word Processing Personnel In The City Service." The proposal recommends the creation of a variety of civil service titles for word processing operators to correspond with levels of demonstrated proficiency. In addition to salary increases and promotional opportunities, the titles would "provide an additional psychological halo to help boost morale and aid in the retention of word processing staff." The proposal notes that the "talents and aptitudes required for the development of word processing skills are easily found among City clerical workers." These talents and aptitudes are identified in the report as general intelligence, personal qualities such as enthusiasm, flexibility, and the ability to work with others, sometimes under pressure. The report also mentions trustworthiness in safeguarding confidential materials, and adaptability to a different work environment.

In the application of word processing to clerical functions in City offices, the report considers some of the more extreme systems proposed for the private sector as unlikely, and predicts that "the cost effectiveness factor should limit the use of word processing equipment in City agencies to text-editing functions with a pronounced emphasis on typing." The report concluded, however, with the admonition that "unless salary and conditions are particularly desirable, private industry will continue to attract City workers who attain competence in this highly marketable skill."

## Conclusion

The projected increase in the number of word processing operators in City employment in the near future does not indicate that there is likely to be any major change in current employment practices. Consequently, none of the public agencies is likely to go outside the civil service route to attempt to hire already-trained and experienced word processing operators. Initial hiring will remain at the entry level for clerical workers, and through an examination based largely on conventional clerical, English and mathematics skills, but not word processing.

Word processing trainees within individual agencies will, in all likelihood, continue to be selected on the basis of their demonstration, on the job, of intelligence, English skills, reliability, "positive work attitude" including good attendance, patience, and what is defined in this context as "mechanical ability." Although there is some disagreement among agencies about the relevance of typing skill as a prerequisite for word processing training, it is noteworthy that among the employees interviewed who succeeded in the training, a high proportion said they had enjoyed typing in their previous work assignment.

Only one of the agencies now requires ability in transcription typing of candidates for training in word processing, and it does not seem that transcription typing will be extensively used in City agencies. This is in contrast to the private sector, where transcription typing ablity is now sought among entry-level job applicants.

Therefore, it appears that for the present pre-employment preparation for City clerical employment, as well as in preparation for private industry, there is little justification for training in word processing. It is certainly not a substitute, at either the occupational education or manpower training level, for such basic clerical and work skills as good English literacy, competence in arithmetic, error-free typing, and good work habits.

An exposure to the principles of word processing, rather than to the more mechanical operator skills, might be justified at the pre-employment level, but only for the most accomplished students. The rationale would be that such students, about a year or more after initial hiring, may be offered an opportunity to learn word processing. In that case, some familiarity with the principles could be of help to them. Those students who, although employable are only minimally competent, are unlikely to be offered word processing training in either the private or the public sector. It is not possible to justify such pre-employment training for them. Not only will it be of no use to them, but it may actually be a disservice by depriving them of training time better devoted to the more basic skills. Beyond this there is the danger that such training will create misconceptions about present and future employment opportunities for the trainees.

# THE OFFICE OF THE FUTURE

Customarily, Task Forces convened by LMIN concentrate on the general nature of current employment and its implications for training. Since such discussions include considerations of trends in the economy of the City, of the particular industry, and of that industry's labor needs and supply, they lead also to some assessment of the near-term future for employment in that industry. This Task Force was different in that it started with a focus on the future for clerical occupations.

## Why the Future Orientation?

It came about primarily in response to two considerations. First, and most compelling, was the experience of another Task Force that was convened to update LMIN's two-year-old assessment of clerical occupations. This group, although it was asked to consider only the current situation in 1980, found that it could not disregard the accelerating rate of dramatic change in the office and, as a consequence, was hard put to define office work skill requirements and their associated training needs. This had not been the case two years earlier. The second consideration was that although discussions of changing office work were available in popular and trade publications, this literature dealt almost entirely with the informationprocessing capabilities of the new technology. If it dealt at all with the consequences for employment, it did so only in sweeping generalities. The little literature that dealt with personnel implications was focused on the functioning of managers, rather than clerical workers.

There were, however, additional reasons. There were indications that a consideration of future office work would not be adequate if it estimated only the rate at which technology is likely to be introduced, and extrapolated from that the changing mix of required skills. It appeared that significant changes in the nature of office work attributable to the new technology are beginning to emerge.

A case in point is word processing. This newer technology was the focus of discussion of the Clerical Update Task Force, called on to reassess current office work. At first, this group seemed to regard word processing as simply a next step in the progression from manual to electric and then memory typewriters, requiring only brief "how-to-do-it" instruction for those with good secretarial skills.

But as the discussion progressed it became evident that some personnel officers and office managers are perceiving word processing as a quantum jump from the typewriter and a distinctly separate office skill. There emerged among them if not a conviction, at least an uneasy sense that "thinking processes" may be more pertinent in the selection of word processing trainees than secretarial skills and that, therefore, the office worker of the future may be a different kind of person.

## Are Greater Changes Imminent?

Additionally, the probability that much greater changes are imminent was evident in some themes that recurred constantly in that Task Force's discussion and in individual consultations. One was that the technology now available or even in use is generally grossly underutilized. Both owners and operators are neither sufficiently skilled nor do they fully understand the potential. Therefore, a distinction emerges between the rate at which machines will be introduced into offices and the rate at which those machines will affect the nature of office work.

Another consideration is that the lines of demarcation between such supposedly independent technologies as word processing, data processing, and communication systems, are becoming blurred. Among other implications, this suggests the waning of the significance of single skills or those relevant only to a single process, as well as the emergence of new skill needs.

In addition to questions involving changing systems, skills, and personnel, were inevitable queries arising from the potential of the new technology for increasing productivity. The effect that this might have on the number of office workers in the future was unclear, despite obvious importance for the City, given its concentration of such employment.

Yet despite the lack of reliable information on the quantitative and qualitative effects of the new technology, let alone its timing and spread, there was a noticeable rush on the part of the public and private training and educational institutions to "get into the act." LMIN itself had been asked for information to substantiate the need on the part of a high school to acquire the most up-to-date and costly equipment for teaching word processing.

Also, the number of CETA programs in New York City for teaching word processing was increasing. Business education courses and training programs were adding word processing curricula although they were often unable to turn out qualified typists. They appeared to be oblivious to the possibility that the changes in office work may be far more profound than the operation of a new piece of equipment. This activity by trainers, contrasted with the hesitance among employers concerning the value of pre-employment training for this technology, strongly indicated a need for better information.

## Need for Lead Time

Therefore, LMIN became convinced that the best estimates of leaders in the development and use of new office systems should be made available to planners of occupational education and manpower training. Considerable lead time is needed in order to properly assess the implications of any general changes in the economy for curriculum and instructional method, determine the population for whom this training might be targeted, and develop appropriate programs. If the new technology represents as thoroughgoing a change as its press suggests, then even more lead time may be required.

In addition to broad questions concerning the probable timing of the introduction of advanced office technology and its general quantitative and qualitative effect on the office force, some observations suggested specific questions to be put to experts on the office of the future, such as, "Is the shift from stenography to transcription typing likely to be widespread and enduring?" Others were issues that could affect educational and training policy. For example, members of that Task Force commented on the continuing erosion of lower-level jobs along with an expanded use of temporary employees for these functions. At the same time, they reported an increased supply of college graduates, not only women, for upper-level office work. Are these changes in supply and demand transition phenomena, or due mostly to economic recession? Or, if they are likely to continue, which jobs will then be the appropriate targets for high school graduates or graduates of short-term training programs?

### Will Different Training be Needed?

Another was that word processing's potential for upgrading the nature of work at the secretarial level by introducing more creativity and enhancing career opportunities within that level may also provide greater access to administrative positions. A change like that might presage a need for different education and training for the upper level of clerical work.

As disturbing as the answers to some of these questions might be, even more troublesome was the possible interpretation of the finding that there are wide variations in how different major companies are staffing, structuring, and integrating word processing into their offices. Planners of education and training would want to know whether this idiosyncratic approach is attributable to the newness of the new technology, is limited to word processing, or is an inherent feature that will continue to produce a variety of adaptations in various offices. "Will tomorrow's office, and the occupations within it, be characterized by an inability to be described in standard terms?"

For these reasons an inquiry into the impact on clerical employment of the "office of the future" seemed not only justified, but necessary.

## Convening the Task Force

What was first thought to be a long-term and difficult process, identifying and then persuading high-level managers in the forefront of office automation to meet with LMIN, proved relatively simple. The reaction of those invited was uniformly positive.

LMIN began with the names of a few individuals who have written extensively or have been quoted in recent publications, along with some who were recommended by other Task Force participants. Some were members of roundtable discussion groups on office automation, who meet regularly. Many of those approached recommended others. In short order, a Task Force was identified and assembled.

It was a larger-than-usual group providing both the desired quality of individuals - leaders in an advanced office systems development in their own organizations - as well as the sought for mix of users, vendors, and independent experts. Representatives of user organizations were, of course, from the large and mainly national companies. The vendors represented were also large organizations. But the independent experts, consultants and academics, have as their clients a variety of smaller organizations, both public and private.

Conversations with the participants prior to the meeting were exceedingly brief. The reasons for LMIN's interest in the subject were clear to them. As issue-oriented persons, accustomed to theorizing about the impact of technology, they needed no persuasion to attend, nor did they need to be encouraged to participate in the discussion.

Toward the close of the meeting one of the participants complimented LMIN on what he assumed had been the difficult undertaking of bringing such a group together. "We are all extremely busy." Their readiness to assist LMIN suggests that they are well aware of the significance of the issues that were suggested as topics for discussion.

Although the group could not provide a precise set of job descriptions and skill requirements for the automated office, tney described the numerous variables that will determine when and how the office of the future will take place. They suggested what the basic occupational structure is likely to be, and what changes in preparation may be needed to equip workers for entirely new or modified roles.

## What Is The Office of The Future?

In current literature the office of the future is variously defined from simply the use of technology to realize office functions, to a comprehensive system that establishes an interrelationship between separate technologies. The Task Force was aware of this variation in definitions. One participant characterized the office of the future as "another slogan - foisted on us. Its meaning can be a single word processing center or an enormously complex telecommunication system connected to printing devices."

To the Task Force, the essence of the automated office is the integration of several separate technological components. Typical of their definition are such quotes as "a multi-function, multi-terminal environment that integrates the total information-gathering and distribution process of which word processing may be only one part - the printing of words" or, carried further, "a computer-based system whereby information flows smoothly throughout a company with numerous points of access and input. For those not comfortable with the use of computer tools, there will be techniques of interacting with the equipment to enter, organize and retrieve information so that it will be arranged as needed."

Such definitions suggest major changes in the office - in the physical as well as personnel arrangements. Even the electronic cottage industry concept, whereby people work only part of their time in the office, becomes a possibility, albeit somewhat remote. More likely is the use of electronic devices to permit sharing of activities, working together without the necessity of physical proximity. People may relate on the basis of activities, irrespective of the department or the physical setting.

The capability of such a system for linking people together electronically rather than physically immediately suggests the possibility of a different relationship between peers and supervisors in which individuals can function as members of various teams rather than within a single hierarchy. The principal personnel implications are, first, that it is unlikely that any single skill will be highly valued and, second, that there will not be any employee who can fairly say, "That's not my job." Working within a system will require an ability to fill in where needed, and adapt to changes. To do so will demand "a genuine understanding of how the various pieces fit together to create the system."

## When Will It Arrive?

The estimated time of arrival obviously is related in part to how the office of the future is defined. Those in the earlier Task Force or in the literature who see it as having virtually arrived or "just around the corner" may have been equating it with the installation of a word processing center. Or they may have based its arrival in two to three years on the accelerating rate of change. "The past six months have seen more changes than in the three preceding years" is a typical comment.

The Task Force, viewing it as an integrated system, saw it as a less immediate prospect. None doubted that automation eventually would catch on, but they cited numerous considerations that could delay its full-scale arrival, even assuming that we are not entering a period of economic stagnation. "Nothing has ever moved as fast as the vendors would have us believe," it was said.

First, were problems perceived as essentially transitional and capable of solution. These included "the enormous amount of capital it takes," resistance on the part of managers and clerical employees to as rapid a change as technology would permit, the potential discomforts or health hazards associated with new office technology, the necessity to relate to the non-automated sections of the community, as well as functional deficiencies in current equipment.

Capital Requirements

The problem of capital is two-fold - its availability and the ability to justify its use for investment in office automation. It was conceded that the effects of inflation on profit margins and on the cost of borrowing could be constraining, but this was beyond the scope of the discussion. The focus was on how to evaluate the cost-benefit relationships. "We find that the decision to invest depends largely on the assurance of a short-term or a large pay-off. Such assurances require quantifiable techniques that are not always available."

Technology is often justified in terms of labor-cost savings because they are more measurable than other savings. And savings in the cost of clerical employment are invariably more attractive than projected reductions of exempt personnel. As one participant put it, "Although the costs of professional time are much higher, when I propose something that will reduce the number of professionals, the discussion ends. As a result, to justify certain projects we will have to reduce costs through data capture at the front end, which makes possible cutting the number of clericals in the back office."

Savings of non-exempt personnel cost, however, do not always imply a reduction in the number of workers. For companies anticipating growth, "it's a matter of doing more business with a proportionately smaller increase in personnel - and this can be estimated by comparing the sales volume or profit per capita with and without the new technology." Many companies, it was said, can already point to sizable savings of this order in a relatively short period, and this is a strong selling point.

But there are objectives for the introduction of new technology that may be more powerful inducements to some organizations than labor-cost savings. These include such improvements in general efficiency as speedier turnaround and a better quality of information available for decision-making, or the solution to a particular business problem, "even such a problem as the unavailability of qualified secretaries."

"When automation is approached as a technique for improved productivity, greater benefits may be reaped. They are less easily quantified but, in the last analysis, cost justifications are only used to justify what someone already wants. It is expectations that drive the system. If benefits are anticipated, the system will be used." As a result, the decisions concerning capital allocations to new technology often become intuitive and vary with the size, economic position, and perhaps even more significantly, the corporate style.

In this connection, some participants made note of the diminishing significance of the sheer size of the company in the response to new technology. Although the large companies are more often the leaders, "over the last several years many small, family-owned businesses have engaged the services of consultants to program specific micro-computers for them in order to perform a variety of functions. And in most cases the objectives have been to improve business operations rather than to reduce labor cost."

## Managers' Resistance

Educating management in the realities of office automation and involving them in the planning processes, it was agreed, are often the keys to securing the needed capital. Much of managerial resistance to technology arises out of misconceptions about how it may change managerial functions and status. One fear is that their role in the decision-making process will become mechanistic - and they will risk "automating themselves out of existence." This is evident in the negative response to proposals that reduce professional time.

Another form of managerial resistance is to endorse the institution of a new technology in theory and then avoid using it themselves.

This form of resistance softens when "the users are treated as customers" or when the system is made easy to use and presented so that it augments rather than replaces or minimizes executive function. Properly presented, managers will understand "that the increasing sophistication of technology provides complex equipment for which the controls are extremely simple. This permits managers and professionals to use the system to do high-level managerial or professional work. Their relationship to the system is entirely different from the operator who runs the system."

Apparently, there are managers who would avoid keyboard operation by maintaining that they have no typing skills. But a study found no correlation between typing ability and the use of terminal keyboards for direct involvement in the system. This is similar to the resistance at senior secretarial levels. The secretary to the Chairman of the Board in one company had to be handled with special care. "The terminal was always referred to as a TV screen and the controls were reduced to three buttons."

### Health Problems

Of greater concern to some Task Force members than such "emotional resistance" is the possibility that unions may seize upon the impact of technology on the office as an organizing issue, and that office workers, when unionized, will be much less receptive to technological innovations. One rallying point might be worker health or the "environmental and ergonomic issues which come into focus as technology proliferates."

Distributive systems with numerous terminals result in more heat, more noise, the glare of overhead lighting and make it necessary to sit in fixed positions. Concern with problems of discomfort and health are now only surfacing in the United States. But they already have aroused considerable interest in the United Kingdom, West Germany, Scandinavia, as well as Japan, where they have become a focus of union activity. In the United States, unions that have had a history of dealing with the impact of automation - the automobile union, for example - are already aware of these issues. Other unions may see the possibility of organizing the great numbers of unorganized office workers as "the opportunity of the century, because office automation not only presents genuine issues of health and possibly of job security, as well, but these issues come at a time when the first decline in total U.S. union membership has been registered."

The Task Force agreed that the issues concerning working conditions are real and must be addressed. Already, manufacturers are producing less glaring lighting, movable screens and more flexible furniture. While some participants believe that unions will gain a stronger position in the office and have an impact on the pace and direction of automation, the consensus was that the threat of unionization "will not stop the march of automation, but it may slow it. One way to lessen the likelihood of successful union organization is to make the changes gradually."

## Technological Limitations

An additional moderator of the rate of change is deficiencies in the equipment currently available, especially those that can make errors extremely costly. "Our system itself is not robust - a mistake can wipe out hours of work; so we need better trained, more literate people for mechanical jobs." The error factor, it was said, "is a real problem but trivial in terms of solution. The software will soon be improved to prohibit such errors from occurring or at least severely restrict their impact." Nevertheless, for the present, this problem along with "the fact that for a long time there will continue to be non-automated systems in the society that we must relate to will be drags on the pace of new installations."

The seeming consensus was that these delaying factors probably would postpone the widespread automation of offices for no more than five to ten years. Some, however, saw the possibility of a problem of another order, large-scale employment dislocation of "the magnitude of what happened in agriculture when it became mechanized." Should this occur, office automation could become a critical social and political issue.

## The Quantitative Impact

"Historically the literature on automation reflects two schools - one, convinced that automation will create as many jobs as it displaces, and the other equally convinced of the opposite effect." Both extremes of opinion were represented among the Task Force participants. In addition, there were some who hold that while total employment or even total clerical employment might be relatively unchanged, considerable redistribution of employment will take place.

### Will Employment Decline or Increase?

Some who prophesy dramatic cuts in office work employment point to the reductions in total employment already experienced by some American manufacturing companies as a result of new technology, although the specific impact on clerical employment is unknown. Data coming out of Western European countries suggests a potential level of technological unemployment among office workers that "may result in a real dearth of slots for school leavers." This is already alarming European unions and governments and "we are witnessing the emergence of similar concerns in the United States on the part of unions and organizations of working women."

Office worker hiring, some said, already is affected. "The professionals may be producing more pages per day, more ideas per month, without increasing the support staff - and down at the entry level the jobs are not appearing." The increasing percentage of total employment in professional categories is, it was said, but another expression of the decline in clerical categories. Cited as perhaps a typical example was the actual experience of one insurance company in which the clerical work force was cut by 80 percent as the result of the installation of a comprehensive information system.

Whether the erosion of jobs taking place at the lower levels of clerical employment is attributable to technology is apparently debatable. Some attribute it primarily to the recent recession and in accordance with this view believe the long-range effect on employment will depend mainly on economic conditions. As one participant said, "If we are arriving at a no-growth economy, we may have to face the reality that only a certain percentage will have jobs and others will need alternative activities." Or, stated differently, "Structural economic flaws in the Western World may move us toward 20 percent unemployment that we will have to accept, just as we have accepted a higher rate of unemployment for inner-city minority youth." And the most pessimistic see no other segment of the economy able to accept the displaced office workers.

Those who reject this gloomy outlook anticipate a return to a normal rate of business growth in the United States and take comfort from the prospect that at the same time we will have zero population growth. They said, furthermore, that estimates of massive unemployment are usually the result of a focus on a single technology - word processing equipment, for example - rather than the office as a whole. "When you consider discrete pieces of technology you see only reductions in the number of employees. But from the perspective of the whole office environment the picture changes." Cuts in one area will be more than offset by gains in other office functions and more workers will be needed because the likelihood is that output will increase. "The secretarial staff might be cut by five percent, but because of increased communication capability on those terminals you will need many new people at OCR devices, intelligent printers, message-switching networks, and the like."

This viewpoint was substantiated by the experience of some Task Force participants who reported that as a consequence of introducing automation systems in their own companies, the actual numbers of jobs have increased. However, they agreed that the increase in the number was probably not as great as it would have been had their output expanded to the same extent without the new technology.

## Or Remain Unchanged?

Those who reject both extremes and whose best estimate is that there will be no significant change in the rate of unemployment attributable to office technology share a basic optimism about the world economy. But they do not anticipate any increase in office jobs. Such reductions as occur will be reabsorbed by either newly created office functions, they say, or by other job opportunities related to office technology. "There may be fewer in the mailroom, behind the typewriter, or serving as messengers, but the demand for people to build and service office equipment will grow as an offset."

Moreover, some said, the degree of displacement will depend on the type of company. Gains in some will be offset by losses in others. For example, New York City business is comprised of two basic types, manufacturing headquarters and "paper factories." The latter include the banks, insurance companies, brokerage firms and "some kinds of universities." It is the paperwork factories that will be reducing the clerical worker complement most by minimizing "the pieces of paper processed and transcribed in the back offices."

This is already happening in banks. "We have drastically reduced the number of times the same piece of paper representing a commercial loan is transcribed from one form to another. Now, automation up front allows the loan officer to interact directly with the loan accounting system instead of passing through a series of clerks, formerly a six-step process." Similar pruning of office work procedures must have happened already in brokerage houses, it was said, to allow for the enormous increase in the volume of transactions with fewer employees.

In the manufacturing world the effect will be far less dramatic. "No manufacturer would handle an order six times - we haven't done that in years. If we had, we'd be out of business."

Those who anticipate no net changes said that reductions in traditional paperwork, however, in all likelihood, will be offset to some extent by the installation of new information systems. Additional information is either expected or virtually required to meet the accelerating pace and the increasing interrelation in the business community. The financial community in New York will not only provide more and better services to its users but reach for a wider market.

One participant predicted a virtual explosion of demand for office workers if, as he anticipates, New York City becomes the ultimate international capital for world trade. Another said, perhaps with a touch of irony, that despite the change in administration the proliferation of government forms for compliance with regulations will keep the office force intact. Finally, it was argued by this group, prognostications of sizable technological unemployment assume a virtually total takeover of all offices by automation. "This will take many years. There are many companies in New York City that are still in the quill pen era and unlikely to change rapidly."

## In the Offing

Despite differing estimates of the net impact on employment, none doubted that an office revolution of significance is in the offing. Even those who believe that we may face some employment problem agree that "Technology that eliminates drudgery is inevitably accepted. Social problems may slow down change but won't prevent it. Moreover, business is not likely to be expected to assume responsibility for the social consequences, especially in these times. Now, in order to be competitive in the world markets today we will have to use the most advanced equipment - even artificial intelligence and robotics - we will have no choice." The rate of change will continue to accelerate, it was said, as the rate at which new technology is made available is speeded. "This is a prime area for investments in R and D. Applications that only recently sounded like science fiction have proven feasible and acceptable."

## Qualitative Impact

The changes of greatest concern to the Task Force were the qualitative ones,"the changes in the nature of the work, in the thinking ability demanded, that might disqualify 40 percent or more of the job seekers." The inability of the educational systems to address these changes, they said, might be the ultimate limitation on the use of available technology.

## Will Jobs be Deskilled or Enlarged?

That there will be major changes in job content, in both the skills demanded at different levels and in the articulation between these levels, was agreed. But before these changes in job content and the needed skills could be described it became necessary to consider a basic, conceptual question. Is automation in the office inherently different than in the factory?

To some participants the answer was "yes" because in the office there is a choice of objectives not usually available in manufacturing. "In the office the objective is not inevitably faster and cheaper but could be better communications from the top down." The faster and cheaper modality points only to the deskilling path - the one followed by the auto industry - or breaking functions into the smallest components to provide jobs demanding only minimal skill. The other road, available to office systems, is to use technology to remove the tedium, thereby enlarging the scope and range of functions for the individual worker and permitting a focus on the more challenging and creative aspects of the work.

Some questioned whether these alternatives are a matter of choice. Whether a job is deskilled or enlarged by technology, they said, might be a function, first, of the nature of the work. Work that is capable of mass production is more apt to be deskilled than work that requires individualized treatment. But it could also vary with economic factors. Is the overriding business imperative to widen profit margins, stimulate growth or improve quality?

Although no agreement was reached, the seeming majority viewpoint was that for the present it is not an either/or situation. Both could occur. Some jobs will be deskilled and others will be enlarged.

Indeed, as was noted, both already have occurred. Financial recordkeeping has been transformed by the computer into a series of simple repetitious tasks, requiring virtually no training for workers filling all but the semi-professional or supervisory levels of jobs. Conversely, word processing has more often resulted in an enlarged scope of work compared with typing. "It would have been possible to set up all of word processing, even text editing, in an assembly line, with some operators working the keyboard, some proofreading, some making corrections, etc. But the turn-around time would be too extended and the principals would not tolerate the assembly-line pace or lack of individual continuity with what is after all a replacement for a secretary."

## Two Levels of Office Work

It was the possibilities of enlarged and more demanding office work that interested the Task Force. They envisioned a significant upgrading of the functions and responsibilities of those in the upper echelons of clerical jobs. The lower-level jobs might be upgraded somewhat, too, but they might also be deskilled or radically reduced in number. Technology may circumvent the thinking requirements now demanded of entry-level workers by the development of built-in signals and corrections. Or, conversely, if file clerks continue in demand they might need more ability to deal with multi-system cross-references that are the products of a computerized system rather than a simple linear method. "Or, in a multi-terminal system, entry-level jobs may demand a variety of skills for entering, indexing and retrieving information, as well as the capacity for some abstraction to handle these functions."

If the lower-level tasks are not upgraded, they will be increasingly vulnerable to erosion. A major threat to the "non-thinking jobs," as they were sometimes called, is that specific and limited functions such as making entries in a terminal may be taken over by the professionals. "As terminals become easier to use, professionals are interacting directly with them and needed information is created and organized by the technology itself. We see this happening already. Lawyers who might have been expected to be the most resistant are revising right on the terminals."

Obviously, the risk that these jobs will be dead ends increases if, concurrently, the upper-level jobs are elevated above the current secretarial level to a paraprofessional status or "something between the secretarial and administrative level." Already fewer clerks and entry level typists are likely to be promoted.

One participant forecast that the two levels will be distinctly different entities. "One would structure the system and the other would work within it." The upper level workers would determine the basic procedures and the layout of the office and organize the work flow for both automated processes and the other paths to the terminal. Given the anticipated rate of change in systems, plus the possibilities within any system for adopting variations to suit differing or newly arising needs, the job of structuring the system will be a constant function. "Gone are the days - or they soon will be - when a structure remained in place so long that no one could remember its original purpose."

Within this formulation, the upper-level jobs will be multifunctional, demanding "a complex of analytic and organizational skills together with sufficient understanding of the system's capability so as to participate in the problem solving decisions."

In organizations where the upper levels are thus transformed, the lower levels, in contrast, will require only such qualities as dependability, consistency, and some general machine orientation. The language skills needed might increase somewhat or decrease, depending on whether or not technology takes over spelling and other basic language problems. But, in any event, the group projected an extension of the trend toward a widening of the gap between the levels in the clerical hierarchy. The gap may then be too wide to be traversed except in rare instances, "particularly if it becomes solidified by differences in educational backgrounds." The lower level may be the realm of the high school graduate or equivalent while the upper level may be reserved for those with some college education as the entry to a whole new range of career paths in support hierarchies, or as an entry to management because "it's where you learn how to manage information."

### Non-thinking Jobs

This formulation of two entirely separate levels was not entirely accepted. Some participants thought that perhaps the enlargement of the secretarial job was somewhat overstated. As one said, "In New York City many secretaries are working for salesmen - salesmen who may be called loan officers or account managers. They don't have the same need for information that staff professionals do, and it is more likely that the secretary's job will continue to focus on securing travel information and reservations, making calls for brochures, and following up on transactions. One might say these will be more or less non-thinking jobs." On the other hand, some participants saw possibilities of job enlargement for the lower levels, with the result that "these jobs will require a better education than many kids now get."

These varying predictions gave rise to a variety of concerns. Some worried about disqualifying many of those who now look to office work for employment. Some were concerned over the creation of essentially "unfillable slots." Others were uneasy about "the amount of power that might be concentrated in people who are essentially technicians - those who use the terminals may control the shots." And still others worried that if those employed in office work are insufficiently qualified to participate in what will be decision-making processes, the system will be inefficient and may ultimately be rejected.

## The Needed Skills

Despite differing perspectives on how much office work will change, there was considerable agreement as to the skills that will be valued. High on the list were qualities such as flexibility, a readiness to continue learning during the course of employment, and "well-formed generic skills that are transferable to a wide variety of systems and functions." Traditional technical skills, it was said, will decrease in importance and the shift away from technical to non-technical considerations will continue.

The diminishing significance of the two cornerstones of secretarial skill, stenography and typing speed, already noted by the preceding Task Force, was confirmed by this group. Stenography was never mentioned. As for typing speed, "when final copy is no longer produced by the typist, nor by one who is working under time pressure, speed is no longer a factor. All that will be needed at entry is some familiarity with keyboards and not necessarily typewriter keyboards."

Transcription typing ability, currently in demand and for which speed is a consideration, this Task Force said, will be replaced in only a few years time by direct voice input equipment. The equipment now or soon to be available, is less than perfect but, it was estimated, "direct input with voice recognition is probably only ten years away."

Because keyboard work will more often involve revision and editing the skills that count become accuracy and the ability to manipulate text - thinking skills rather than eye-hand coordination or manual dexterity. If, as many anticipate, the keyboard is used as part of a creative process, then speed is even less a factor. "Nobody inputs even 20 words a minute in creative work or anything other than by rote, and the machines will do the rote work."

## Machine Orientation

Replacing the time-worn technical skills are attributes such as machine orientation which, significantly, was not perceived as a technical skill or an exclusively vocational skill, but as a product of basic education. What was meant is the absence of any fear of electronic machines and, instead, a general understanding of their functions, physical attributes and language. "It's an attitude we look for, an interest and even a liking for this machinery rather than any real knowledge of the operation of particular machines."

This familiarization process, the group anticipated, will become "a natural part of basic education because computerized technology will pervade so many aspects of living, - banking, shopping, transportation, and health care, etc. The first phase of machine orientation could well become part of elementary school curricula, as witness "the millions of grade-school kids who are now becoming acclimated if not addicted to computers merely by playing electronic games." However, these games may be only enjoyed by middle-class children and therefore it behooves elementary schools to make sure that all children are exposed to computers.

The future office worker may benefit by additional vocationally-oriented study of the basic concepts and theory of the computer, other office technology, and office systems in general. However, it was cautioned, this can easily be overstated, "No one needs to know the total capacity of the technology. They only need to know what they are going to use and this is best learned in the context of the actual work process."

Irrespective of the level, whether it be pre-high school, high school or beyond, it was again emphasized that it is concepts and not applications that count. For example, "Word processing as a skill is meaningless to me - what I'm interested in is the ability to manage information and that means how to communicate, file or edit, not how to operate particular equipment." The same perspective was differently expressed as "I want word processing theory, not Wang, and programming, not Cobol."

This approach to training in new technology is not understood by vocational schools and community colleges. Several participants said that whenever they are consulted by planners or faculty members of such programs, they are invariably asked, "what equipment to buy instead of what to teach. Schools are preoccupied with what once was important - keeping up-to-date with equipment. Now they can't and it is unnecessary. The problem they confront is how to teach students to think about the process of recording information. You don't need a word processor to do that. I can do it with a pencil and paper." Or as another said, "By the time kids get to vocational school - if they don't already have language ability it's too late. So they (the schools) try to solve the problem by throwing iron at it. But knowing the rudiments of machine operations is no substitute for inadequate language skill."

Beyond machine orientation, all that was mentioned were such "un-technical skills" as telephone manners, acceptable on-the-job behavior, punctuality, careful attention to detail. The last assumes added importance if, as some predicted, all clerical workers are to be given increased responsibility for an enlarged scope of activity. Of continued importance will be "some degree of language ability, especially the ability to communicate orally with precision."

## Analytical Thinking

The critical factors, however, are qualities of intellect, variously characterized as analytical or logical thinking, the ability to deal with abstractions, problem-solving, or organizational skill. "When what one person does can affect a whole system he must be able to conceptualize what is happening. This is a kind of abstraction few office workers have been trained to handle, let alone understand."

These qualities were at times summed up as "a systems approach." The essential questions are, is this a distinct skill or a complex of skills and, if so, could it be the focus of training at some level?

Most agreed that while basic intelligence and general educational achievement may set the outer limits of development, some aspects of a systems approach could be developed by specific training. "Logic and analytical thinking can be taught if you begin early enough and early enough is no later than junior high school." Whether such learning must continue beyond high school was not specified. Several participants said it may be necessary to attract better-educated workers. Although they did not make it an absolute requirement, they tended to foresee college education as a necessity for at least the higher level jobs. Others regarded a year or more of post-high-school specialized training as appropriate, "assuming that by the time they graduate from high school they have not been damaged by imperfect training and are no longer flexible and adaptable."

There were a few who saw no relation to any particular background or credential. "I don't care a thing about educational levels. If I find people who can understand a system, I don't care how they learned it Some people are just naturals." But they recognized that the need for this ability might soon outdistance the supply of "naturals." Then they would endorse training "if you can find educators who believe in the value of general understandings and who understand that they can only teach the basics. Just as professionals know they must continue education throughout their working lives, clerical workers who formerly completed their education at some point early on will, in the future, need to understand the necessity for continued learning."

## Where Are We Now?

We are now in a transition period, it was agreed, and one that will probably span the next two to five years. We see the new equipment used alongside the old and used in ways soon to be outmoded. Some offices look different. Banks, for example, with their hundreds of terminals, "bear little resemblance to the old-fashioned bank arrangement." In many offices some clerical tasks have been significantly automated, changing not only the appearance but the way in which workers are organized. This is true of both large and small companies. One participant said, "We already have a terminal for every eight people in our headquarters location or 400 for every 3,000, and soon will have one on every desk connected by a digital telephone system." This may be one of the more technologically advanced organizations in the City.

In contrast, there are many large companies as well as many smaller ones that are largely unchanged and "within which the pivotal office worker is a secretary and the main piece of equipment is still the typewriter." But even in that segment of the office world that already is making significant use of advanced technology, there are relatively few integrated systems, the essence of the office of the future. And "instead of comprehensive planning it's a great mess - a multitude of different models going at it in different directions." Therefore, little about the present can serve as the basis for planning for preparing clerical workers for the future office.

First, there is little uniformity as to which functions are automated. All functions in an office are to some degree capable of automation and companies tend to begin with that function they see most in need of improved speed, quality or lower cost. Some companies use word processing, others a highly centralized data processing operation, and still others a distributive information or communications system. Even when several functions are automated they are often separate and unrelated functions, without any consistency in how they are organized or staffed.

As the use of technology evolves it is expected that it will be applied less idiosyncratically and the systems will be more compatible. But this is not likely to occur for several years. "We will continue to see amazing varieties of patterns. It's a vendor-driven industry and the vendors are offering a wide range of models. In fact, the chaotic nature of this industry may get worse for a while."

Second, what is now done in the name of automation, the Task Force said, is often nothing more than "a faster or cheaper version of what had been done before." Many organizations apply technology from the bottom up, assembly-lining parts of the office in an effort to cut labor costs. Increasingly, they said, managers are recognizing "that meaningful changes in the use of technology are better realized by starting at the top - in how managers input and receive information, and what support they are given. Technology is not limited to producing the same result more economically but can now be used to do things in dramatically new ways."

The result of the current misuse or limited use of new technology is that the employees are often functioning in ways the Task Force expected ultimately will be outmoded. For example, the tendency to shift workers from the typewriter to the word processor does not only underutilize the equipment's capability. It also promotes the continued practice of having a worker operate a single piece of equipment full-time. This is still a focus on a single skill, rather than on the multiple skills that, they said, will be required of office workers.

Now, they said, the cost of the equipment may justify training a person to operate a single piece of equipment. The cost probably will change and, more important, the equipment will be less specialized in function (although it may be designed for a specialized category of users.) Therefore, the individual with specialized skills now in high demand may only be employable for another five years.

## Entry Level Jobs Will Change

Additionally, although the direction is unclear, some entry-level jobs will change significantly. Many now relate mainly to the technology by feeding information into a system in an essentially repetitive process. Whether this will remain as a separate function, or become part of a "thinking process" assigned to higher-level clerical workers or assumed by the professionals themselves is, as already discussed, an open question. But if it does remain as a separate function it very likely will be transformed "to an information processor," or some title that posits a certain relation to a system calling for the ability to move and function in many ways. The concern for worker capacity will shift from accuracy alone "to the ability to learn new ways and adjust to new functions quickly."

Moreover, during this transition period, supervisors or highly-trained people are designing, setting up and operating the systems. As the systems become established these jobs will become less demanding and jobs now filled by supervisors will be the entry jobs. "We will then need people who will be happy at the terminal and stick."

With respect to secretaries, some believe the correspondence secretary may ultimately be downgraded to a straight inputting word processor as principals begin to do their revising and editing. Others already discern the beginnings of a new secretarial career track in administrative support services.

Finally, the present situation in the more advanced offices, if measured by hiring requirements, is misleading. Changes in skill needs may have not been translated into personnel policy. One participant described the frustrations encountered in endeavoring to hire trainees for a new integrated information system. "What we want is people who understand a system, its logic, its limitations, and how information can be organized. We would then train them in the specifics. But the personnel department is still out there looking for secretaries who type so many words a minute. So now we look over the entry-level people for those with flexibility and curiosity."

## Implications for Training

It was unlikely that this Task Force, focused on the broad outlines of the future structure of office work, would formulate a specific curriculum for preparing workers for the automated office. But even those who perceive the forthcoming changes in the more moderate terms believe that significant modifications in pre-employment training will be demanded. Indeed, toward the close of the meeting, when each participant, in turn, offered a summation of the group discussion, most often they expressed it as a recommendation directed to educators and trainers.

These recommendations referred as often to the orientation and atmosphere of occupational education and training as they did to the content. For, as might be expected, the participants were more certain of the need for programs to be change-oriented and to produce flexible and adaptable graduates than they were of the precise nature of the skills that will be demanded. Moreover, they were unsure of whether the skills - the "thinking processes" - they see as central to the new office can be produced in vocational programs.

## Orientation to Change

For pre-employment programs to be sufficiently change-oriented may mean adopting a particular philosophical posture more than any specific structure or method, a posture that "regards no aspect of curriculum as sacred but everything open to critical review" and recognizes the limited likelihood of "a standardized office world, even in that part that becomes fully automated."

Whether this requires some built-in mechanism to detect and assess changes or a new form of collaboration with industry, the Task Force could not say. But they sensed a need for a joint process to provide sufficient lead time. "Programs should not have to wait until the changes show up in revised personnel policies and hiring requirements. The changes are likely to call for much more than additional courses or slightly altered teaching methods. They may require an entirely different approach."

But, equally important as this heightened awareness of change is the receptivity of the educational system. It must be freed from the constraints that result from major investments in physical equipment, inflexible commitments to staff or inhibiting policies and procedures.

## Over-reliance on Equipment

The error of according the highest priority to the equipment on hand is one most frequently made. This is understandable, for in the past it was a serious programmatic defect and remains an aspect for which vocational education is most often criticized. It may still be justified, in other vocational programs, but in the case of electronic office equipment, the Task Force agreed, it is neither feasible nor desirable. "Not only can the basic concepts and the relations between separate technologies be taught without a whole array of the latest models that no school or training program could afford, but the danger is that when equipment is on hand it is used incorrectly to teach by rote how things are done."

Coupled with the tendency to focus on the unwanted specific applications is the likelihood that once the equipment is owned, its cost is amortized by continuing to use it long after it has been outmoded. Participants could cite instances where training continues unchanged "because they can't tear out the machines."

The Task Force recognized that it is more often "easier to get a grant for a new piece of equipment than for a new program in language skills. Therefore, you need staff who thoroughly understand that they can't rely on equipment." This will happen, it was said, when programs insist that their faculty have had some exposure to a variety of offices, sufficient to convince them that concepts are more important than practical applications. "They need actual experience or sufficient contact with managers and trainers, not only personnel interviewers, so that they understand that not only is there an increasing variety of office practices but for any single system there is more than one way to achieve any result." Only then will they avoid any didacticism. "It's impossible to teach flexibility if you are inflexible yourself."

## An Experimental Approach

Finally, the whole program should adopt what one participant designated "an experimental approach." By this he meant one that scrutinizes every aspect - admission criteria, allocations of time and funds, and the relation to other levels and types of education and training. The last mentioned assumes special significance if, as the Task Force seemed to agree, the skills that probably are the crucial ones are "thinking processes," the teaching of which they believe must begin earlier than high school and may need to continue beyond. Perhaps most important is the relation to basic education programs if, as the Task Force believes, logic, analytic thinking, and the ability to handle abstractions as well as language ability are the paramount skills.

## Vocational Skills

Virtually nothing was said by the Task Force concerning traditional technical skills. Only when it was noted that the preceding Clerical Update Task Force recommended transcription typing training was this discussed, and then, as already mentioned, it was dismissed as only in limited demand at present and likely to become outmoded in a few years with the availability of direct voice input equipment. Indeed, little that was recommended as valuable preparation could be construed as occupational. Even the basic familiarization with computer technology was considered basic education rather than vocational.

The focus of discussion was on the skills needed by the upper level of a two-level hierarchy. Here the concentration was on basic education for the development of the language and the thinking processes that these occupations, it was assumed, would require. There was even the possibility that only college graduates would qualify. The logic, analytical ability, and abstract thinking that in combination forms "a systems approach" were only vaguely described. The extent to which they are a product of innate intelligence, environmental experiences, or education in general, or could be consciously developed by specific programs remained undetermined. For the lower echelons, if these jobs are not eliminated or radically deskilled, some understanding of the concepts of an office system, or the beginning level of an office system approach may also be indicated.

## A New Generic Skill?

"Office system skill" has the ring of an emerging generic skill which at present, like customer contact skill, is easily recognized but hard to define. Whether there is as yet sufficient experience with office systems to analyze the components of this skill complex and its susceptibility to training is uncertain. Some of the participants in this and the Clerical Update Task Force have already been thinking of how better to define this skill and of "how to train workers to think in terms of the ultimate possibilities of a system."

In the absence of a clear definition of this skill and some guidelines for its development, occupational educators and trainers are left with scant material for a curriculum. The recommendations of this Task Force as to content of vocational programs, beyond a somewhat more developed understanding of office technology, were confined to assertions concerning the importance of adaptability and of the necessity to continue learning well after employment, along with cautions against a focus on a single skill.

Office workers, presumably at all levels, will need to be multi-skilled and versatile. Assigning a worker full-time to a single operation is likely to be phased out as a practice in automated offices. In a conversation after the meeting, one participant made special note of the news that a Western European country had adopted the first legal prohibition against full-time office work at a single station of technological equipment.

Training, they said, that presents only one system, one environment, one career path, or any single aspect of office work is already unrealistic. While in time there may be a greater degree of standardization of the equipment itself and of the way the equipment is used, it is unlikely that the patterns will coalesce to form a single model.

## Conclusion

A rapidly changing scene and one "in which the present may furnish a distorted view of what the future will be like creates a tough problem" for the planners of vocational programs. Moreover, if the Task Force is correct about the nature of the prospective changes, a radically new concept of preparation for office work will be required for the automated part of the office world. A few participants doubted that "the government or the schools can meet the arising needs" and believe that companies will have to consider training as one of the costs of automation. But others see the present as "an ideal time for planning and testing new types of training. Nothing has crystallized and office managers would probably be willing to work closely with educators to construct pilot programs," aimed perhaps at developing office systems skill.

Meanwhile, in on-going programs, it clearly would be premature to abandon the teaching of typing. It probably is equally inappropriate to rush to teach word processing to those with no office work experience. But restricting office work preparation to copy typing, rather than transcription, and failing to include the broad exposure to new technology that this Task Force as well as the Clerical Update group recommended, could impair the future employability of program graduates.

How to expand the non-technical aspects beyond what is already required for offices where only conventional equipment is used, to the "thinking processes" this Task Force envisions as needed, may be as much a problem for guidance and selection as for training. If, as some believe, there will be a dramatic reduction in the number of jobs, the obvious and difficult problem will be to find some alternatives and assist young people in making choices. This problem will arise even if the total quantitative impact is not severe because the likelihood is that job opportunities for those with only limited basic education will shrink.

But what about the anticipated qualitative changes? Perhaps the Task Force, because of its interest in the more sophisticated uses of technology, may have overstated somewhat the potential for enlargement of functions and responsibilities and the concomitant intellectual demands. Perhaps, also, the increasing availability of college-educated people is to some extent attributable to the recent drop in teaching opportunities as well as a general cutback during a recession. But what if the Task Force is correct in its assessment of skill requirements, and if increases in earnings and promotional opportunities make it possible to continue to attract the college graduate even when other opportunities for them increase?

The problem then may be how to transform what has been a relatively undifferentiated occupational field, almost entirely for women, to a specialized one for some men and some women. There may continue to be some opportunities for those who would be content in occupations with rather limited advancement potential. And for these, the selection problem may be only somewhat more complex than the current need to screen for basic language and computational skills. But for those who seek true career development, the selection process may be of another order.

One participant summed up the changes he and many others are banking on by saying "If I had a son or daughter in high school now, this is the direction I would point them in. And if they are willing to work at it and develop the systems skills that are needed, they will be earning at least $50,000 as young adults."

# COMPUTER OCCUPATIONS REEXAMINED

For its third year of operation, LMIN determined that in addition to exploring new industries and occupations it would also consider re-examining some already studied to learn whether significant changes had occurred or appeared to be in the making. Because the impact of technology had been well publicized in two areas they were prime candidates for re-study. The areas were clerical occupations and the various activities related to computers. Members of the appropriate LMIN Task Forces were consulted who represented different perspectives.

Unlike the Clerical Task Force, whose participants responded positively to re-convening the group to discuss changes since 1978, employer representatives in the computer field replied that for the near term the requirements for the principal computer-related occupations seemed likely to be substantially unchanged. However they, in common with the recruiters and managers of clerical workers, envisioned major quantitative and qualitative changes in the future that will affect computer maintenance, and data processing and programming personnel. But these anticipated changes were viewed as "too far down the line to define with any degree of precision."

## Computer Maintenance

First, with respect to computer maintenance, they forecast that the demand for technicians at many levels will continue strong for several years. The continuing expansion of commercial computers is expected to be enhanced by the availabilty of lower-cost equipment with an increasing number of possible applications. In addition, it was said, the home market for computers, expected to approach the level of saturation already achieved by television, may provide additional demand. But in the long run, a sizable portion of computer maintenance will be less demanding and considerably less labor intensive.

The expectation is that much of computer maintenance will be the replacing of modules. And if, as projected, computers will have the capability of self-diagnosis, or of having malfunctions determined by another computer, repair work will be radically simplified. Then it may be "the customer's own service personnel or the users themselves who will provide the basic maintenance." Those aspects of the computer operation not susceptible of such treatment, it was said, may be ones of extensive sophistication, involving integration with other technologies or systems. Such repairs will demand top-level technicians and in all likelihood the high-level work will remain the function of vendor service facilities.

Already the manufacturers of some desk-top computers proclaim that they can be installed by the customer in under an hour. But few of the capital-intensive New York banks or corporate headquarters that were consulted employ their own maintenance staff. A few employ maintenance personnel at high-density facilities outside of New York. Data center managers, however, see house staffing as an eventual pattern and agree that maintenance work probably will be split into two levels, instead of the finely-tuned series of gradations described in 1978. The training required for the lower-level functions probably will be similar to what is now demanded at these levels. But for the upper levels, the requirements may be more demanding. And in all likelihood these jobs will be less accessible through on-the-job development.

The demand for maintenance personnel is still strong. But the high salaries paid to skilled workers together with the cost of their continuous training puts "the price for maintenance out of sight! You send your personnel to school for several weeks or more to learn the new equipment and by the time they are competent in it a new series is out." With vendor capability for servicing its own equipment a major consideration to purchasers, there is every incentive to reduce the maintenance needs. Much of engineering attention, it was said, is now directed toward making computers relatively fool-proof.

## Data-Entry

Demand for data-entry personnel continues strong and largely unchanged. (Key-punch operation, as predicted, is being phased out.) But it is widely accepted that data-entry and retrieval will not remain the exclusive province of a special category of clerical workers. What is more likely is that all office workers will perform these functions as a part of their activities and that increasingly managers and professionals will interact directly with computers. Indeed, the principal targets of marketing for the new equipment are the professionals.

In companies that are adopting integrated automated systems this has already occurred to an extent. As reported by LMIN's 1980-81 clerical Task Force, the lines between clerical functions and data-processing are blurring and some professionals and executives are working directly on CRT terminals. Examples were given of bank loan officers and insurance claims agents as among those who are now making entries directly into terminals and are rapidly eliminating some of what had been clerical tasks.

The impact of this trend on the entry-level occupations is not clear. Some say their number will grow along with the expanded use. Others consider that growth, if any, will be minimal and that the demand for data-entry workers will more likely level off or actually decline, given the increasing speed and reach of the equipment. For the near term, however, the consensus was that data-entry workers will continue to be the main actors in the initial input of data. "It is they who provide the masses of data that professionals use to try out new formulations, or the 'what ifs.'"

## Computer-Related

The jury is still out on the question of whether the clerical computer-related jobs will become less or more demanding. In either case the specific skill training requirements are likely to be minimal. The well-prepared entry-level clerical worker who has had some exposure to the computer's concept and functions will be acceptable. What seems most likely is that fewer office workers will be hired to perform a single skill such as data-entry. For them, as for other workers, versatility, adaptability and an eagerness or at least a willingness to learn new skills will be the requirements. No forecasts were offered for computer operators or other occupations.

## Programming

The predictions for programming, an occupation that is increasingly the focus of all levels of vocational programs, are for a polarization similar to the two distinct levels anticipated for computer maintenance. Equipment will be designed so that it can be re-programmed for a range of applications by secretaries or other senior office workers, or their principals. In addition, more programming will be accomplished by using packaged software. Adapting this to the users' equipment may require of the programmer such skills as an understanding of a computer language, but not the conceptual and analytic abilities of current programmers.

Programming that cannot be accomplished in this manner, however, will probably demand a high level of expertise. Some of the Task Force representatives already report that this divide is beginning to occur. One, for example, reported that secretaries are re-programming, "by simply following the instructions in the manual." A personnel interviewer adapted the equipment to a new salary formula "without any help." And another said that "our programmers are not technicians. Now they are more like systems engineers, the thinkers -- and getting more so. But, of course, the majority of our programmers are still in the in-between levels, college graduates with a few years experience."

The consensus was that the lower-level activities "are really not programming. Programming will continue to require a college education at the least." And, in the longer run, the expert programmers may more often be free-lancing or writing packaged programs for software service firms or vendors. Many companies will realize "that they can do better by buying the service already pre-packaged or using experts when needed, than employing their own." This trend may raise the level of programmer's requirements still further.

Since all except experienced programmers were reported to be in good supply, those consulted evinced little interest in re-convening a Task Force.

## A Second Look

At the beginning of June 1981, however, the head of the data processing department of a New York City community college asked LMIN to review the outlook on computer programming. He wanted to know whether the four-year degree has become the absolute minimum, or whether revisions in a two-year degree curriculum were indicated.

This gave LMIN yet another opportunity to test the value of the "network" and, once again, the representatives of the companies consulted were entirely responsive. They replied to LMIN's questions "off the cuff," asked for time to consult with others before replying "because I can't know it all," or referred us to several other officials in their own company and its branches or to their counterparts in other organizations.

In about two weeks more than 20 such discussions had been held. Among those consulted were personnel recruiters, data center managers, trainers, and systems planners or major users -- banks, insurance companies, securities houses, utilities and corporate headquarters -- strategists, marketing and customer support personnel of principal vendors, and several management consultants and independent experts. They made various and at times conflicting recommendations for an Associate (two-year) degree program, but concerning the current employment outlook they agreed. "The demand for programmers is unbelievable -- but it's a matter of definition." And to virtually all who were consulted, a programmer is almost always a holder of a Baccalaureate (four-year) degree with a computer science background and at least two years of programming experience. The only exceptions are those with many years of experience who "antedate the existence of college courses in the field" or the incumbent employees accepted into an in-house training program.

## Role of the College Graduate

The four-year graduate who either majored in computer science or completed a computer science course afterwards, is a trainee. And the demand for trainees is softening. This is happening partly because some lower-level functions, as already noted, can be managed by other than programmers, but mainly because companies are less than satisfied with the productivity of new trainees compared with salaries currently demanded. Many college programs, it was said, are turning out graduates with either insufficient aptitude for the occupation, inadequate or inappropriate training, or both.

The cost of training becomes especially excessive when salaries have risen "from $14,000 only a few years ago to $22,000 or more."* Furthermore, some companies are reluctant to hire trainees because "the turnover is terrible. Once they have had six months' training and experience they become highly marketable commodities. And if they don't realize this themselves they will be lured away by employment agencies offering higher-paid jobs."

## Focus on Experience

As a result the focus in many companies is on attracting the experienced programmer. One company reported having imported a group from Great Britain. Companies of varying sizes and types of businesses are using software service organizations rather than hire trainees. But, of course, not all requirements are thus satisfied and trainees are hired.

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* It should be noted that the rise in salary does not indicate a shortage of trainees. It is merely a reflection of the need to provide a salary that indicates the rank of computer programming in the corporate hierarchy.

Some few companies continue to prefer them* and recruit the experienced programmers only when special needs arise.

But whether preferred or not, companies are increasingly selective in hiring trainees, most of them confining their outside hiring exclusively to four-year graduates. The result is that a well-regarded four-year program can say that it places all its graduates with salaries of up to $24,000. On the other hand, a company that hires about 12 trainees semi-annually for its training program can select from a pool of 200 or 300 unsolicited applicants, of whom the vast majority are college graduates.

Of interest is the willingness on the part of several companies consulted to hire college graduates who have neither majored in nor have taken outside courses in computer science. Several times it was noted that hard science, economics, even music or philosophy majors, are considered. Typical comments were "there are other qualities that count, and we can train programming if they have the thinking processes." Some companies use tests of abstract or logical reasoning ability and say that the test scores are more significant than computer training. One trainer actually prefers those without a computer science degree. "We can't satisfy the computer-science graduates. They have unrealistic estimations of their value."

A management consultant who serves a diversity of clients amplified on the trend toward placing less emphasis on computer science majors. He said, "No one is a computer scientist after a four-year college program. Moreover, there are only 10 to 12 first-rate college programs in the country. The rest are out of date or not business-oriented. The trend, as in many other occupations is to look for highly literate, intelligent and broadly educated college graduates and make them into programmers." One employment manager for a company that now hires about 150 programmers each year believes that ultimately they and others will rely mainly upon

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* The training given these trainees is often confined to some specific company procedure.

## The Four-Year Preference

While prior computer science training may not be an absolute requirement, indications are that a four-year degree is. The bases for this policy are partly the general assumptions that this graduate is probably the better student with the more substantial educational background and partly such considerations as the likelihood of greater career attachment, particularly if the education has had a focus on computer science and business courses. Those companies with formal regular training programs open to incumbents find that only a few of those with less formal education score as well on aptitude tests as do the college-graduate applicants.

Of course the supply is a factor. As one recruiter said, "The market is flooded now. We no longer need to do the active college recruiting of former years. It's all turned around in four years. The only shortage is for the experienced programmer. But for how long?" The answer apparently is that the pirating will endure at least for a while because programming is still a growth area.

## Implications for Training

Obviously the prevailing pattern may not apply to smaller organizations, but it must be remembered that the smaller businesses that now are customers for computers rarely employ full-tme programmers. The reported glut of college graduates available as programmers may not be an indication of an over-supply of qualified candidates, but of the entry "of every kind of institution wanting to get into the act." The implication for college level programs is that they need be more selective with respect both to students and to the courses that are offered.

The recommendations made for the community college program that stimulated this inquiry were passed along to its faculty. But in broad generalities, they were of two types. One was to suggest that a community college set its sights on something less than full-fledged or high-level programming opportunities. These could range from the upper-level clerical functions in a data processing center and adapting pre-packaged software, to actual programming with the more easily learned languages, for small computers. One of the employers consulted recruits two-year graduates for the upper-level clerical functions such as librarian, from which they may be selected as programmer trainees if they perform well and qualify on the aptitude test. Another said he would hire community college graduates only if they were trained in the basic applications for the minicomputer. Another thought the two-year graduate might be especially welcome in "small firms that need a jack-of-all-trades and not experts -- a little operating, a little programming, etc.", or in so-called "third-party shops," the software services that employ personnel of a range of qualifications.

The other recommendation was for a clear articulation with a four-year college program. The suggestion was that a community college establish a formal relationship with a "top-flight four-year program with a good track record" by which graduates would be automatically accepted into the third year. This would signify to students the need to continue their education should they aspire to become programmers. Employers, it was said, will also be impressed by the ability and intention to continue and more readily employ such students while they are pursuing the balance of the program.

The apparent conflict in the kinds of curriculum revisions recommended was a reflection of whether the A.A. program is conceived as terminal or as a step toward a four-year degree. Those who saw it as a self-contained program suggested a focus on specific and simpler applications -- the languages that are easier to learn, or what they perceived to be in greatest demand at the moment. But those who recommended a relationship with a four-year program said that the curriculum restructuring "would flow from this relationship." The two year program would become "a much more penetrating exposure to the basic theories -- the structures, the concepts and the significant software."

In either case, what these employer representatives were saying as gently as they could was that currently, and probably in the future as well, an A.A. degree will have only limited relevance to a career in programming.

# DISTRIBUTION

What began in 1979 as a somewhat dubious excursion into an occupation that, at best, held the promise of only a very few jobs - graphic arts - by the strange logic of work force relationships led to a series of potentially productive studies. High on that list are the Freight Traffic and International Trade studies in this section.

Employer Task Forces for other occupations, even those somewhat related to domestic and foreign trade, provided no picture of the employer interest waiting to be satisfied by a serious offer of relevant training. And yet, once identified, this employer interest surfaced rapidly and could be translated into promising activity. Disributive education, as currently defined and practiced in the New York City schools, offered no clues to the work to be done, and the administrator and teacher interest that could be meshed with the interest among employers.

Even more important than the possibly useful job programs that might direct some students to useful and satisfying careers is the lesson offered by these examples. Labor force analysis need not be restricted to a reworking of conventional, established data, but can still discover new areas to explore and explain.

# FREIGHT TRAFFIC

A family of occupations involving the distribution of materials, from raw goods to finished products, and by a variety of transportation means, was studied under the designation "freight traffic." Although this is not a standard term in industry it served LMIN's need for a working title. Certain occupations within the group, such as Traffic Manager, or Rate Analyst, may come to the attention of persons not in the transportation industry, but the hierarchy of jobs in the group has received little public attention. For example, New York City currently has no publicly-provided education or training for these job opportunities.

That these occupations should have received so little attention in this city is anomalous since the work is in keeping with the City's focus on activities directed toward administration and distribution. It is also unusual that the opportunity should have escaped the close scrutiny now being directed toward any potential employment and to training that may lead to such employment. Furthermore, these are jobs that are increasingly open to women.

Although it is difficult to quantify the number of jobs available, employers were for the most part in agreement that employment opportunity exists, that the currently inadequate labor supply warrants improvement through pre-employment training, and that the job opportunities in the City should probably number at least a few hundred. They pointed out that for certain of the jobs the current "deregulation" of the transportation industry should soon produce an expansion of the number of available jobs.

## An Enviable Background

It was noted by some that entry-level traffic jobs in industrial corporations often provide an enviable background, and that people in such jobs are frequently regarded as good material for promotion to other functions in a large corporation. Others disputed this, indicating a spectrum of corporate policy. It was also pointed out that the many corporate headquarters in New York City provide a unique opportunity for entry into beginning jobs involving freight traffic. After an initial two or three years in such jobs people interested in advancing their careers may find opportunities for re-assignment, nationally or internationally, to locations where entry jobs are not available, but advancement potentials are. Additionally, the skills involved are readily transferable from one firm to another, and the occupations are characterized by such movement.

Another form of movement within the occupations is between industrial corporations and motor carriers. Only the largest organizations can usually afford to train personnel, so the others must either "pirate" from each other or induce trained workers to shift to another part of the industry. Frequently, working for a large corporation is the greater attraction. The railroads, highly unionized, fill traffic jobs through internal promotion, coupled with training, and are regarded as representing less of an employment opportunity than do the motor carriers. The air and shipping lines are more like the railroads in regard to employment opportunity.

An added advantage of traffic jobs with shippers or truckers is that the field fairly standardly enjoys a strong sense of fraternity, exhibited by the more senior members helping their juniors to advance, but mostly at the management level. As a result, it was said, advertisements for traffic management jobs are a poor measure of job openings, since many desirable openings are filled through this informal, internal network.

LMIN's attention was directed toward these occupations involving freight traffic by an interest in the general job category of "traffic." After inquiry it became apparent that "freight traffic," as opposed to "print traffic," is a free-standing occupational grouping, and that it warranted study. Further study indicated that the international shipment of freight would best be considered separately, so that "freight traffic" in this case is meant to be restricted to domestic trade. Although traffic occupations in both domestic and foreign freight handling require a knowledge of warehousing, it may be that this is becoming yet another free-standing occupational grouping that warrants study for training potential.

## The Task Force

Employers of workers in domestic freight operations are broadly divided into two categories, shippers and carriers. Shippers are primarily manufacturers who have goods to be moved, from raw materials to finished products. They include the very largest manufacturing corporations, which distribute nationally, and smaller firms that function mostly in local markets. Shippers also include department stores, supermarkets, and wholesalers. For the most part, firms must have reached to above the smallest size to justify and afford traffic personnel, although the need may be increasing in smaller companies. Carriers include truckers, railroads, shipping lines, air lines, and freight forwarders. Again, they must be large enough to afford employing special personnel for traffic and the computation or selection of rates, although that size may be diminishing.

In assembling the Task Force, LMIN made an effort to have represented both shippers and a variety of carriers. When the group assembled, however, those present represented large-corporation shippers, the larger trucking companies, and independent consultants who provide management and other services to middle-size truckers who in effect represent such potential employers. This may provide a useful indication of where actual job opportunities exist.

## The Occupations

The occupations considered are perhaps best understood in relation to rates. For the carriers, the major function is to see to it that the proper rate is charged for the commodity carried and the service rendered. For the shipper, these workers attend to finding among carriers the best available combination of cheapest and most effective service for each shipment. Associated jobs involve keeping track of all the documents involved, tracing lost shipments, and arranging compensation for damaged shipments.

The jobs fall roughly into two large categories, clerical and management. In the first, they begin with such positions as billing clerk or supplement file clerk, which are barely distinguishable from general clerical positions. The jobs then progress through successive grades bearing a variety of titles, until they culminate in positions called Rate Clerk or Rate Analyst. In the managerial category, beyond Trainee or Intern, the jobs begin with various Supervisor titles, advance through Manager and Director designations, and finally arrive at Vice President for Distribution or some equivalent designation.

## Manpower Supply

Entry-level clerical positions in traffic are now filled, largely by chance, from among applicants for general clerical jobs. As a result, few such workers have much understanding or appreciation of the scope of the activity in which they are becoming involved or the opportunities it offers. In a few instances it is possible for employers to find trainees from courses in traffic management who understand that despite their training they must still "start at the bottom." Such entry-level workers tend to move up quickly, however, contributing to the availability of entry jobs, since general clericals also move from them often.

A principal source of trained applicants in New York City is the Academy of Advanced Traffic, in One World Trade Center, which provides both day and evening courses. Many of those attending the Academy are already employed and are sent at their employer's expense for formal training. A smaller number of students attend at their own expense. They seek employment after they are trained, thus becoming available for entry positions from which they expect to advance into the higher clerical categories, or into management.

In addition to the Academy there are some college-level courses offered in and around the metropolitan area, aimed to some extent at preparing students for management positions. It is at least hoped by these institutions that their students will be employed as management trainees. As a result of the orientation and small number, these students do not constitute any substantial labor supply for the entry-level clerical positions associated with traffic.

## The Role of Pre-Employment Training

The manpower shortage in the traffic field is in such job categories as Rate Clerk, Rate Analyst, and some support positions just below those titles. These are not entry-level jobs. They can only be attained by advancing into them from a base of experience gained in lower-level positions, usually augmented by some formal training.

The time spent in lower-level employment is not only for purposes of acquiring specific traffic experience and knowledge, but also to become familiar with the employer's total operation, as well as a service to a tradition in the industry regarded as "paying one's dues." Therefore, it cannot readily be avoided through the substitution of training. As a consequence, entry-level employees who wish to avail themselves of the advancement opportunities in traffic must have sufficient commitment to endure the initial period, and enough understanding of the entire process to appreciate that they are being tested and must display themselves to best advantage to maximize their opportunity.

Consequently, the pre-employment training is not for the advanced jobs in which the shortages exist, but to prepare applicants so that they will use the entry clerical positions to advance themselves into the higher jobs. Since those entry jobs can also be filled by clerical workers with no traffic training, the role of the pre-employment traffic training must be understood not only by the trainees, but also by the trainers, if it is to be effective.

That role is to provide some skills which will be immediately useful to the trainees as entry-level workers. It is also to provide a general overview of the role of traffic in the economy and the society, and the place within that role of the various traffic occupations. The training should also impart information about the requirements for the various levels of employment in traffic, and how those requirements can be met. Finally, it is to provide enough information about the content of the higher-level jobs to enable the entry-level worker, through job-provided exposure, to develop useful skills and knowledge. This will allow the entry worker to advance in the succession of occupations, and to benefit from additional formal training, thus opening up opportunity in the top-level clerical jobs or in management.

The Task Force, after clarifying this role for pre-employment training, went on to consider what, from an employer's point of view, the outcome of the training should be to make an applicant attractive as an entry-level employee.

## Training Outcomes

Finished Trainees, to be more attractive to employers for entry-level jobs than regular clerical applicants, should:

- have good basic language and computation skills
- have acceptable work habits and dress habits
- possess some maturity, perhaps even some previous work experience, but may range from high school graduates to persons in their late 20s who have become career oriented
- be capable of attention to detail and have some familiarity with analytic process

- have become familiar with both the physical and the economic geography of the United States

- be aware of the role of transportation, distribution, and warehousing in the current national economy and society, as well as in the nation's history

- understand the levels of the occupational structure they are entering, the tasks assigned to those levels and their hiring requirements, and the role in that structure of entry-level jobs

- have some understanding of the rates and total costs of goods distribution, as well as of the current rate system. They should have received the information from persons currently employed in traffic occupations

- be aware of the advantages of a commitment to a career in traffic and understand the need for experience, training, and higher education

- understand the advantages of good typing skills, although some employers do not require them

- understand the advantages of computer familiarity, although some employers have not yet advanced beyond the use of a calculator.

## Training Content

The Task Force members had different opinions about which of the attributes listed above should be regarded as a responsibility of the training course. Usually, the differences arose from varying views of what intake criteria should be for trainees, or what additional responsibilities it is reasonable to impose on trainees in addition to the training.

Typing and computer familiarity were an example. None of the participants felt that the course should provide these skills. However, some thought the skills should be an entry requirement, while others felt it would be enough to advise trainees to acquire these skills on their own.

On the other hand, oral and written communication skills, and basic mathematics, except for industry vocabulary and special calculations involving freight, it was agreed, should be brought to the course by the trainee as a condition of access to the training. Work and dress habits, orientation to detail, and familiarity with analytic process were also regarded by most participants as entry requirements for the training, although some thought that, if lacking, they could be taught in the training.

The remainder of the desired outcomes were regarded as the expected content of the training. Basic curricula for all or portions of this content need not be created totally, since they are apparently already available. One source mentioned was the Eastern Central Motor Carrier Rate Bureau, Box 3600, Akron, Ohio, 44310, which has issued a "primer" that explains carrier rates. Another is the College of Advanced Traffic, in Chicago, which like the Academy of Advanced Traffic is an affiliate of the Traffic Service Corp., of Washington. The College of Advanced Traffic markets curricula for training courses that are used by, among others, community colleges.

However, for the pre-employment course under discussion, there was disagreement in the Task Force over whether the course need cover as intensively as these curricula the complex procedures in listing, finding, analyzing and selecting from a tariff the various carrier rates. Two considerations seemed to underlie this difference of opinion.

## Occupational Goals

One was a difference of views about what the occupational structure will become under the impact of the current deregulation. Among the shipper representatives there were some who felt that the structure will remain substantially as it now is, and that post-employment training for Rate Clerks and Analysts should be left to institutions like the Academy. Others felt that deregulation will create the need for a lower level of rate analysis than is now ordinarily practiced, as a support function for Rate Analysts, and that this level of analysis could be taught as pre-, rather than post-employment training.

One proponent of the second view declared: "There are now some 150 Rate Clerks or Rate Analysts in the Midtown area working for shippers. I expect that in the next ten years there will be a need for three times that many, although all of them may not be quite so highly trained." Others differed with this view only to the extent of estimating the numbers much higher.

Another made the opportunity more immediate, saying: "All the rudiments of rates could be taught to the right person at the high school level, and I'd love to get my hands on him right now."

The carrier representatives were less concerned about occupational changes under the impact of deregulation and more interested in filling current vacancies for Rate Clerks. Since their need is for fully-trained Rate Clerks rather than for some subordinate or support position, and since they rely partly on shippers for their manpower supply, they were somewhat skeptical about substituting pre- for post-employment training. However, they felt that pre-employment training would be most useful for some jobs other than in rate determination.

The other factor underlying the difference in view about the intensity of rate training in the pre-employment course was difference among the participants in their image of the level of education at which the training should be offered.

## Level of Education

At the start of the Task Force's discussion, the prevailing image for the group was of a six-month to one-year course offered to high school seniors in a commercial or other non-academic school. One reason was that such courses have been offered in New York City in the past, with fair success, although they died out inexplicably. Or, that similar courses are now offered at that level in other communities. A second basis for the view was that such high school graduates are the traditional population from which the bulk of entry-level clerical workers are recruited.

As Task Force members or LMIN staff raised such questions as the possibility of cooperative education or some other model of work-study, subsidized on-the-job training, or training at the manpower program or community college levels, the discussion led to the clarification of some underlying considerations.

The shipper representatives were from the management level. Although most of them had progressed into management through the clerical hierarchy, their viewpoint is now essentially management-oriented. It was difficult for them to conceive of attracting the kind of people they see as appropriate for jobs in traffic with shippers without offering an opportunity to advance into management. Members of this group were exemplified by the participant who referred to the $18,000-a-year Rate Analyst position as "essentially a dead-end job."

Given this view, it was understandable that this group largely favored elevating the training level and content as much as seemed possible, consistent with the over-riding consideration that graduates will still have to start work as low-level clericals. Consequently, they emphasized the importance of being very selective in choosing high school students as trainees. They were also able to justify the training at the college level by observing that "a college student trained in traffic will move through the lower-level clerical positions much faster, or might even be able to begin somewhat higher, for a little more money."

Their desire to make the course content fuller was bolstered by the indication of minimum training time that is provided by the railroads. The training of that highly-selected population is now in some cases contracted out to commercial training institutions, rather than attempted in-house. For this pre-screened group, which already has some knowledge of railroads or has been in support-type positions, full-time pre-employment training to prepare them for entry-level productivity as Rate Clerks can be accomplished in from two to three months.

On the other hand, an experienced trainer was quick to take issue with the remark that lower-level rate functions are "easy," and quite within the capabilities of a high school student. If that were so, he pointed out, the jobs would not now carry their relatively high rate of pay.

### Mode of Instruction

In general, the Task Force was in favor of some combination of education and practical experience. There was favorable mention of cooperative education, but in fact there was little ability within the group to distinguish work-study from apprenticeship or other study-plus-practice models of training. Nor was there sufficient experience to predict the improbability of obtaining through high school cooperative education, as currently administered, the caliber of trainee envisaged. One carrier representative noted a previous experience with high school cooperative education students, all of whom opted for other jobs in other fields as soon as the work-study period was over. He was unable to deduce from this experience, however, what would need to be changed to make such trainees more useful to an employer.

The carrier representatives were quick to reject OJT as an acceptable form of training for them because their firms need immediate productivity from employees. Also, they are not able to free experienced employees to be instructors, and they are convinced that the desired training contains classroom instruction. Also, because for either an OJT or work-study model to be feasible for a carrier, the carrier would have to be one of the very largest ones. Unlike the shippers, who have a large number of corporate headquarters in New York City, very few of the really large trucking firms now have their headquarters in the City.

The shipper representatives were equally unenthusiastic about the prospect of subsidized employment as a training device, even though the operations of their firms could sustain that. This appeared to be largely because such subsidies are likely to carry with them an obligation to compromise on intake standards, which would be out of keeping with the shippers' desire to make fullest use of the entry jobs' potential for providing high-level clericals or managers. One expressed a preference for an "internship" as an alternative or supplement to classroom instruction so that interested employers could participate more fully in the training.

There was, however, general agreement that an entirely classroom-based course will be substantially improved by supplementing it with carefully planned and implemented field trips to offices, terminals, warehouses, and other such typical traffic installations. The trips should be planned to allow the trainees to observe the transportation functions being carried out, and the work being done under operating conditions by regular employees.

## Instructional Personnel

The Task Force emphasized the importance of it being clearly understood that if a training course is considered, the course must be in a position, in matters pertaining to traffic operations, to offer training that will be credible to the employers. The most important ingredient in this, it was stated, was that such instruction be provided by currently operating personnel in the industry. Although this was thought to be particularly true about material having to do with rates, it would also apply to other aspects of ongoing operations.

It was noted, for instance, that despite the manpower shortage in traffic jobs, only one carrier, and no shippers, responded to a mailed inquiry from a City community college asking for expressions of interest in a traffic course proposed by the college. The person providing the report thought the lack of response was attributable to the college's failure to guarantee that the instructional staff would include people currently active in the industry.

The Task Force members cautioned that should a school system, manpower program, or other institutionalized training facility elect to offer pre-employment traffic training, such curriculum content as the history of transportation, the physical and economic geography of the country, and similar general subject matter can be taught by regular teachers with no special expertise in traffic. However, materials dealing specifically with the regulated freight rate system or current industry practices will have to be provided by instructors credible to the employers.

A related observation was that since introversion appears to be a general characteristic of Rate Clerks, most of those currently employed would not, in all probability, make good instructors. It appeared from this that the most likely source of the kind of instruction deemed necessary will be managerial and executive personnel who were once Rate Clerks but had the human-relations skills necessary for advancement into managerial positions.

Again, the carrier representatives doubted that the nature of carrier operations will permit truckers to release their executives for such service. Among the shipper representatives, however, some of whom come from very large corporations, there was general agreement that such a proposal, made to their organizations, would be regarded favorably. They noted that since the material to be covered in this fashion need not occupy more than a few hours of each week's training, and since the basic organizational responsibility for the course would lie with others, the released time necessary to allow an executive to participate in such a training plan could be fitted into the schedule of even a busy manager.

An offer that came spontaneously from the shipper representatives, but which was not rejected by the carrier members, was that their employers might well be willing to provide summer employment to regular teachers engaged in traffic training to give them practical experience in how distribution operates.

## Implications for Training

Synthesis of the material provided by the Task Force's discussion with data from prior interviews indicates that, if properly implemented, pre-employment training for occupations and careers in traffic in New York City is a good prospect at the high school level, for a CETA program, or for a community college.

One key issue appears to be the proper selection of trainees, although self-selection based on informed vocational counseling may be an acceptable, or even a preferable alternative. The importance of communication skills, detail orientation, analytic thinking, what this industry regards as acceptable maturity, and the flexibility to accept job reassignment were stressed by the Task Force as the keys to success in the field.

Given this emphasis, it may be as important for a training program to attend to the selection and training of its guidance counselors and others involved in the recruitment and selection of trainees as to be concerned with the proper selection and training of its instructional staff.

Development of, or resort to, adequate curriculum will certainly be an important ingredient of a successful program. Supplementation of available instructional staff with credible industry members, and the planning and administrative flexibility involved, will surely be another.

One advantage of this training, as already pointed out, is that New York City offers virtually a unique opportunity for the effective placement of successful graduates. Another is that little, if any capital investment in specialized equipment is required. Still another is that placement efforts can be facilitated by having recourse to such existing industry service organizations or professional associations as the Delta Nu Alpha fraternity, the American Society of Traffic and

Transportation, or the National Council of Physical Distribution Management, all of which have expressed interest in aiding a training program if they deem it worthy of their support.

The most important positive factor in estimating the viability of this training, however, is the virtually unanimous agreement among industry representatives that there is a current need for employable people, and that this need is more likely to expand in the coming decade than to contract or remain constant.

## Additional Observations

The differences of opinion among Task Force members about the level of education at which the training should be offered, and the level of employment toward which the training should be directed, are not likely to be accomodated by any one training program. An attempt to establish a pre-employment training program will have to take into consideration such variables as conditions imposed by sources of funding, the population to which the program has access, and the available time for training. On the basis of such variables a realistic set of compatible choices will have to be made. For instance, a program might decide to ignore entirely the management potential of the career opportunities available or, conversely, to stress precisely that potential. In either case, there will be implications for selection criteria, curriculum content, mode of instruction, time for instruction, etc. Since this report cannot anticipate such options, it must content itself with stressing the importance of making realistic and attainable descisions for whatever training is undertaken.

To accomodate all the varying points of view would require a competence beyond the jurisdiction of any individual training program. It will have to be undertaken at some planning level with the ability to affect a wide range of educational or training activity, because what is needed is a career track that can encompass the spectrum of educational and training institutions. It would have to take in the primary and secondary levels of public education, the manpower programs, proprietary technical institutes, and higher education from community colleges through graduate schools.

Such an integration could permit the development of a truly career education approach to manpower development for this important segment of societal and economic functioning. Those whose first contact with the field comes in the form of overview instruction, perhaps at the high school or manpower program level, could proceed into entry-level employment. Given the inclination, they could later supplement this with more specific instruction from a technical institute while they are employed, or at a more accelerated pace if they can take time out from employment. This would equip them for higher-level jobs not attainable through work experience alone.

If an individual's capabilities and interests produced an interest in employment at an even higher level, that person could then have recourse to higher education, perhaps up to a graduate degree. At any point along such a track, there could be an exit into an appropriate level of employment where the individual could stop if there is no inclination to go higher, or pause until such an inclination develops.

# INTERNATIONAL TRADE

Of the various forms of distribution and traffic management probably the best known, at least by name, is import-export. In New York City, which is a major port and heavily involved in the movement of goods into and out of the country, international trade's existence is often referred to and numbers of people are directly or tangentially involved. Nevertheless, the details of employment in this industry are not generally understood and little public attention in the City has been directed to the preparation of workers for this family of related jobs.

Industry representatives report a "critical" manpower problem, due largely to qualitative deficiencies in the available manpower supply at almost all levels, including entry. However, the extent to which pre-employment training might be useful in alleviating the problems is a clouded picture involving a number of considerations.

## Ignored in U.S.

In contrast to other major trading countries in Europe and Asia, the United States appears to have done little by way of according status to the occupations in international trade. As a result, the subject is rarely incorporated into school curricula and neither the functions nor the employment potentials in foreign trade are familiar to students in elementary and high schools. In higher education those few who have elected to specialize in this area were made aware of it through other means than usual education routes.

Speaking of the skills that an entry-level worker ought to bring to a job in international trade, one of the industry representatives said: "Not only is the full list known by people in Japan and Europe, where they study these things in school, but also in Canada. And in Quebec they have the added advantage of a foreign language." He attributed the difference to a basic orientation in which those countries make their citizens aware of the importance to them of foreign trade, while the United States, he said, clings to its background of "social and business isolation."

Nationally, most of American foreign trade is concentrated in a very few large companies, a trend that appears to be continuing. Nevertheless, the remaining business is scattered among a large number of relatively small firms which, collectively, account for most of the employment. Consequently, employment prospects are greater in these smaller firms. A newer development is affecting this pattern, however, as more American manufacturers are coming to recognize the advantages of dealing in foreign markets and foreign trade moves toward a position of greater importance in the economy. In this development smaller firms are either moving to central cities from the ports or are opening branches, creating opportunities for trained personnel. This training, however, still takes place in larger or parent firms, which remain in the coastal cities.

## Opportunity in New York

In New York City, port activity has been declining for decades, while other East Coast ports have been expanding to meet the resulting need. Although the City's share of the actual physical movement of freight in and out of the country has been declining, New York remains a pivotal point in the nation's international trade activity as a result of its dominant position in what are regarded as "services." These are essentially the paper-work transactions associated with foreign trade and they range from ship chartering and insurance to banking and customs transactions. Also, there has been continuous talk of repairing the City's physical port facilities and taking other steps that might restore more of physical freight movement to the City. However, the prospects of anything substantial being done are not regarded in the industry as much better now than in past years.

Another facet of employment in foreign trade is that it regards itself as a low-wage industry. Official records are not organized to report foreign trade as a separate category for employment purposes and it is difficult to confirm this report statistically. However, there is some evidence to indicate that entry clericals in this industry are not paid less than their equivalents hired by other employers.

One result of these various influences is that the industry is reported at this time to be in serious danger of encountering a skilled manpower shortage at its higher levels, where both technical training and specialized experience are required. Under the pressure of demands for immediate, maximum performance, it was said, these higher-level workers have failed to train their own replacements. Other domestic sources of training at those levels are regarded as inadequate. For a while, the sources reported, technical and managerial jobs were filled by recruits brought in from Europe, but this is said to be no longer attractive to the Europeans, so that at least some firms are required to defer or abandon opportunities to expand for lack of personnel.

## Industry Attitudes

A constructive result of the otherwise gloomy labor-market picture in this industry appears to be a growing receptiveness in segments of the industry to proposals for training, a receptiveness that might even be translatable into active cooperation with training efforts. Some American employers said that while only a few years ago they would only consider college graduates for entry-level positions, now they are becoming ready to at least consider a training program graduate as a candidate for an on-the-job trainee position.

Some foreign employers based in the City, however, were said to be not yet ready to make that reduction in their entry-level requirement and still insist on college graduates. This was attributed to their still being used to the employment pattern of their home country, where apprenticeships that start at an early age are common. As a result, "entry level" is more likely to mean initial employment at a fairly high level and, therefore, college completion is not an unreasonable requirement.

In this country, it was said, the pattern of hiring college graduates at entry is based on different considerations. In some segments of the industry it was attributed to the failure of the public high schools to produce a usable manpower supply in terms of language and mathematics literacy. The college diploma, it was said, is sought merely in an effort to obtain those skills. In other segments of the industry, regarded as "higher-class," college graduation is a hiring precondition in an effort to maintain this "class difference."

The prospects for activity in international trade in New York City appear to be that a sizable industry will continue to be domiciled here, centered on the service activities associated with trade. This industry will continue to need a manpower supply which it will recruit from local sources if those sources can provide acceptable candidates. Some change in hiring requirements may result from the rapidly increasing use of computers, but these may involve temperament more than entry-level skills, which are expected to remain about the same. Another anticipated development is that separate segments of the industry are tending to become even more specialized and more expert than they are now, although broadly-based training and experience will continue to be valued. Still another is that other areas of the country will continue to look to the City as a major source of manpower for trade activities based elsewhere.

The pay pattern may improve as computerization, specialization, and expertise increase; manpower recruited from other places usually commands a higher price.

## The Task Force

International trade is characterized by many more specialized functions than are usual in domestic trade. In addition to the greater role of ships of various kinds, all the other carriers are used and freight forwarders play a larger role. Among shippers, there are not only the producers of finished products in export and the major retailers in import, but a variety of export management and trading firms which relate to the basic trade function in several ways. Some act as agents for the makers, sellers and buyers of goods, others actually purchase the goods and then both transport and sell them. In between are such differentiated roles as banking, chartering, insurance, and customs brokering, to name just some.

In assembling a Task Force, LMIN encountered a range of reactions to the invitation, some of which seemed to correlate with the segment of the industry to which the firm being approached was attached. The railroads and the air lines responded as they had to an inquiry into domestic freight traffic - that their relations with unions precluded their ability to make use of pre-employment training. The larger banks reported that entry employment in their departments dealing with letters of credit was in no way differentiated from entry into any other department and that, because of computerization, pre-employment training would be of no interest to them.

Major shippers who handle much of their own foreign trade activity included some who expressed interest in joining the Task Force. Similar examples of interest were found among export management and trading firms. One of the few remaining American ship lines sent a representative, as did one of the trans-continental motor freight carriers. Freight forwarders also included some who were interested enough to be represented. The affiliation of others who attended is apparent from the organizations they represented and can be seen in the list of participants at the end of this volume.

Not represented in the list, but not necessarily lacking interest, were the many smaller firms in the field. Their activity does not always fit a precise category. As with most smaller firms, they were somewhat more difficult to reach. Those that were contacted displayed the typical pattern of finding it difficult to spare the time to attend a meeting. Since the Task Force had already reached an optimal size given LMIN's method, it was decided to reach such firms by interviewing a sample directly.

The responses of the various categories of employers are reported because of LMIN's impression that this information is a useful guide, in the event that pre-employment training is undertaken, to where finished trainees might find employment.

## Occupations

International trade is not so formalized or systematized as to have any pervasive regularity in its occupational titles. From the discussion of the Task Force it appeared, however, that entry-level employment falls roughly into three categories regardless of the titles used. The categories are distinguished by the nature of the entry-level requirements.

### Carriers and Freight Forwarders

The first of the categories predominates among carriers and freight forwarders. In those segments of the industry the entry-level clerical positions involve in some fashion the processing and recording of documents. The particular documents vary according to the function performed by the firm, but the processing appears to be essentially similar and in most instances routinized. These are occupations for which, in decades past, recruiting was among high school graduates with no prior instruction in international trade, but probably some clerical preparation. Although the work is largely routine it does provide instances in which the clerk is required to exercise some judgment.

That judgment is often informed by an understanding of the purpose of the trade transaction and of the document in question. To obtain that capacity for judgment, and for an understanding of the importance of the decision reached, these employers find themselves looking, in the current labor market, for more college-trained applicants than they used to, or than they really think they need. However, the wages they are in a position to offer, as well as their irregular hours and the frequency of night work, undermine the strategy.

Therefore, the carriers and freight forwarders expressed considerable interest in the possibility that pre-employment training might improve their manpower supply within the wage range they consider feasible.

## Shippers and Export Managers

Employers in these two categories described their entry-level occupations as involving more problem-solving activity and less routinized clerical work than in the carrier firms. The shipper representatives said that, as a result, their pattern is to employ entry-level workers with prior work experience, frequently in either carrier or freight-forwarder organizations. The export management representatives reported that they look even more to recruiting college-trained, although not necessarily graduated, people with liberal arts backgrounds. They do this, they said, in an effort to locate problem-solving ability, but added that they could use job candidates with a more detailed knowledge of the vocabulary and practices of foreign trade, as well, since a general college education does not provide that. These employers, like the carriers, expressed interest in the potential of pre-employment training for providing such specifically trade-related instruction, but probably had in mind a better-equipped trainee to start with. One hope expressed was that such training might enable them to reduce the level of education credential they now find necessary in their selection process.

## Commodity and Bulk Traders

These tend to be not only large firms, but also firms that deal, as measured by money, in large trade contracts. Their employees in basic operating positions are called "traders" and are said to be, in both status and function, similar to stock brokers. The report of the one representative on the Task Force of this category of employer, which was confirmed by the other members, was that their entry-level recruiting seeks potential for promotion to the trader classification and is, therefore, firmly based on at least a college credential. This Task Force member said that her firm would not be interested in the products of pre-employment training for its recruitment. It was added that clerical workers in such firms require little or no knowledge of the field and so need nothing beyond their clerical training to be acceptable job applicants.

## The Smaller Firms

To account for the possibility that a substantial difference in manpower needs and hiring practices exists between the larger and smaller firms, interviewers went out to some smaller firms. Although most of what the Task Force reported for the larger firms held true for those smaller ones interviewed, there were a few differences.

It had been anticipated that smaller firms would not be able to spare the time for a Task Force meeting. However, the number that also rejected a request for an interview appointment assumed significance in the context of the information provided by those who did consent. For the most part, those firms that would not grant interview time did not share with the Task Force a sense that the field of foreign trade is on the verge of a critical manpower situation. Many of them rejected the request on the ground that they have no staffing problems.

Even those interviewed were generally agreed that although they categorize most of their workers as skilled, and have little or no turnover, they have no great difficulty in replacing those workers who leave.

The largest difference between the Task Force and those interviewed in the smaller firms had to do with wages. Unlike the Task Force, the smaller firms that consented to interviews all said they paid higher-than-average wages. They attributed to this, more than to anything else, their minimal labor-force problems.

Nevertheless, most of the small-firm employers interviewed felt there might be some utility to pre-employment training for both the trainee and the employer. In general, they agreed with the Task Force about what the content, level, and duration of the training should be.

## Career Paths

Just as the occupational titles in international trade are unformalized, so are the avenues by which advancement and career can be pursued. It was clear from the Task Force's discussion of this aspect of the industry's work pattern, however, that ability to advance in this field is more a function of the individual's personal drive and ambition than of steady progress along an ordained course.

One expression of this was the observation that successful people in this field tend to be "entrepreneurial." Another was that an effective career strategy for such a person is to change jobs on an average of every two years, each time going to a different segment of the industry to broaden one's experience, rather than seeking higher-paying positions only within one segment. An interesting aspect of this observation was that in international trade such a work history would not be regarded as a sign of an unsettled personality, but of commendable ambition. The associated personality requirement might well be taken into account by vocational counselors and by those engaged in screening for training.

## Personality

The issue of the personality appropriate for foreign trade was raised in a number of contexts in the course of the Task Force's discussion. It became clear, however, that the different segments of the industry hoped to find different personality types, and that even within one segment different personalities were mentioned in relation to different manpower needs. It was this range of requirements that finally led one participant to remark that the job candidates sought by this industry are "really no different from what any other employer is looking for - basic reading and math skills, and an ability to communicate."

However, although the discussion did not contradict this observation, it did identify with more specificity some of the requirements and their rationale. For instance, it was reported that among carriers and freight forwarders, as they incorporate more computer systems into their operations, they find a change in the entry-level clerical workers they need. Previously, the clerk was required to perform certain calculations and processed perhaps 150 documents a day. Now, the clerk simply enters data, the computer performs the calculations, and the clerk processes perhaps 800 documents a day. The two personalities are not the same, it is found, and although some referred to the data-entry clerk as a "robot," others pointed out that this is a worker capable of job satisfaction from work that ends totally with the end of the working day.

The export managers were quick to point out that for their problem-solving purposes this data-entry clerk would be useless. They needed, they said, the individual capable of "jumping over the computer" to a higher position. Even some from among the carrier representatives acknowledged that their need for people who can be advanced to positions of higher responsibility would not be served by the data-entry personality type. This revealed an ambivalence in that segment of the industry about the type of entry worker to be sought, and the limited utility of a single-function worker.

## Employer Differences

A distinct possibility is that the field is characterized not only by a variety of specialized firms, but also by firms whose specific specialization and manpower requirements can change in response to changing business circumstances. This could account for some of the difficulty this Task Force had in pinning down the job categories and manpower needs in this industry. The point is another that bears taking into account in advising people about work opportunity in this field.

Integrating the various observations of the Task Force on occupational potential in international trade leads to some atypical possibilities. One is that since there is no prescribed career path, there is no necessary or usual point of entry into the field. Just about any job will do as a starting place, so long as the individual has the personality and capacity to change jobs fairly frequently and accept the challenge of changing each time to relatively unfamiliar work.

Another is that the unsystematized nature of the field's occupational pattern facilitates moving not only into higher-level jobs with each change, but within the field into sales positions or management, and to other fields, as well. It was remarked that, as one result of the pay pattern, "when you have a competent problem-solver, your competition is not each other," but other employers in other industries.

## Supply

The first entry level of employment, involving people with no training or experience in foreign trade, is usually messenger or clerk-typist. Employers reported a plentiful supply of applicants who they characterized as generally of insufficient quality to make them employable.

The qualities that are most often sought are typing skill that emphasizes accuracy rather than speed, and language and math skills to a level usually equated with high school graduate. Some knowledge of geography, some knowledge of a foreign language, are advantages but not requirements. Which foreign language depends on which countries the firm deals with. The required relationship of foreign-language skills to English skill varied among employers. Some said they would sacrifice some English fluency for foreign-language fluency, others would not. A particular warning was voiced against those whose foreign language is vernacular Spanish, but who cannot understand standard Spanish and who cannot translate into English.

However, the most-sought-after quality, and the one found most lacking in available job applicants, was variously described as "brightness," "common sense," "smartness," "intelligence," "sharpness," "enthusiasm," and even "agressiveness." The quality is tested by personal interview; the assessment is by "gut reaction." A finding that the quality is present can lead to less emphasis on some of the other attributes sought; lack of it is overlooked only when no better candidate is available.

The next-higher entry level is for jobs that are usually reached internally after successful completion of six months' to a year's on-the-job training. In almost all cases there is no current substitute for this much actual work experience for this level of employment. Some employers felt that if pre-employment training were provided it might make candidates eligible for this level of job; others felt trainees would still have to start at the first level but could move up more quickly. To some extent this division again reflected the different manpower needs of the carriers and freight forwarders, as distinct from the export managers and shippers.

Recruitment in international trade appears to follow much the same pattern as is resorted to by other employers seeking clerical workers. Whenever possible, in an effort to reduce the uncertainties of selection based on just interview, they try for referrals by other employees by letting them know that a job is available. If this avenue is not available, they may seek some pre-screening by using an employment agency. Otherwise, they advertise and interview.

## Available Training

Very little pre-employment training is currently available in the metropolitan area. The principal training resource is the World Trade Institute, operated by the Port Authority of New York and New Jersey, at One World Trade Center. The Institute offers both day and evening sessions, and both introductory and advanced courses. For the most part the facility is set up to provide training for people already in the field who either on their own behalf, or with their employer's support, seek to upgrade their knowledge and skills. The Institute can also provide an introductory course in foreign trade for those seeking to enter the field, but this is not a formal offering at this point, although such a formal course is under consideration. The Institute operates on a non-profit basis but charges tuition; a rough estimate of the courses that would constitute an introductory program was that it would cost the student about $500.

Some courses are offered in junior colleges, but they appear to be intended more as a supplement to such subjects as economics or business management than as preparation for employment in international trade. Also, for people already in the field there are periodic lectures and seminars on new or difficult practices offered by trade and professional associations. It is unclear whether these would be useful for someone seeking an introductory overview preparatory to entry-level employment.

## The Role of Training

Since the Task Force was a heterogeneous group with different points of view arising from different manpower needs, they also saw the role of pre-employment training differently.

The carriers and freight forwarders hoped it might improve labor supply by reducing the need for college-educated beginners, by reducing the time in which beginners under training are non-productive, and by reducing the wastefulness of having people in whom training has been invested drop out because they are fundamentally disinterested in the field, the work, or both. These employers also saw, at least in some cases, the possibility of hiring-in at a second-step level the graduates of such training.

The shippers and export managers thought training might improve their labor supply by making available to them a supply of entry-level workers capable of accepting and profiting from on-the-job training. If that were so, they said, some larger percentage of entry-level workers would have the potential for progressing to even higher levels of work through experience and such formal training as is provided by the World Trade Institute. These employers insisted that their over-all manpower strategy is to find workers they can promote, rather than keep them in entry-level jobs.

The larger trading firms, on the other hand, said that they would prefer clerical workers who are satisfied with clerical work, and do not want to be advanced out of it.

Although both the carriers and the shippers accepted the idea of pre-employment training in or after high school, they both expressed at least interest, if not preference, for a longer-range familiarization with international trade that they thought should be part of the public school curriculum. Particularly in a city like New York, they felt, such an introduction and orientation would be appropriate.

Although the notion was not explored very intensively, what the Task Force appeared to have in mind was a core curriculum toward which language, mathematics, social studies, clerical studies, and other such standard subjects could be focused. Views on the grade level at which this could begin varied from the upper grades of elementary school to the lower grades of high school. But rather than discuss such an issue, the Task Force suggested that the experience of other countries, where such studies take place, be consulted.

The reasoning behind this view had at its core a very practical consideration. Apparently, work in international trade is not for everyone. It is described as involving "pressure," an ability to provide service to demanding customers, and an ability to tolerate irregular hours. People who have no interest in or inclination for such work are a burden to the industry. Rather than screen them out through exposure to the work, which is inefficient and costly, the industry would prefer to have people "screen themselves in" on the basis of an exposure like a school curriculum. The extent to which post-high-school pre-employment training could perform this same function was not lost on those in the Task Force who favored it.

## Training Outcomes

The Task Force found it difficult to address the question, "What should a job-ready trainee be able to offer an employer?" The difficulty reflected a number of considerations.

One was the division within the group over the kind of worker sought. Another was the general frustration these employers feel about the workers they now hire for lack of anyone better. As a consequence they could not focus on what, in a sense, would be an ideal worker. Instead, they kept coming back to what they felt they could hope for realistically.

Still another consideration was the group's awareness that even if pre-employment training were made available, employers would still have both a need and a responsibility to provide training on the job. In part, this would be needed to instruct employees in the employer's particular way of doing business, but also to facilitate and fill the need for upgrading.

The result of the discussion on training outcome was agreement that the finished pre-employment trainee should be someone brought to the point of being a likely on-the-job trainee, albeit with some capacity to function productively in the entry-level job.

## Training Content

Using the information gathered in telephone interviews the following question was developed and presented to the Task Force for its consideration and comment:

What should a job-ready trainee be able to offer an employer; how much should be provided by pre-employment training, how much should the trainee be expected to bring to such a course? Subjects or skills already mentioned have been:

- basic language and mathematics skills
- understanding of trade and transportation's place in the economy and society
- the rules and regulatory agencies
- geography and economic geography
- documentation: bills of lading, commercial invoices, certificates of origin
- special requirements of particular commodities
- special requirements of ships, planes, trucks, containers
- currency exchange, foreign currencies, metric measurement

- the special vocabulary of foreign trade
- skill in the use of the typewriter, the calculator, the Telex, the computer
- an understanding of the need for accuracy, responsibility, "common sense"
- a foreign language
- customer-contact skill

The general agreement was that only a few items should be dropped entirely from the list. These were the special requirements of commodities, knowledge of foreign currencies and exchange, and proficiency in operating the Telex. The first two were considered unnecessary for introductory training, the last something an employer could provide training for if he has the need. It was also clarified that basic language skill means the ability to take telephone messages and communicate them accurately, and that mathematics skill need go no further than ability to multiply and divide. Typing need not stress speed, but requires accuracy.

The other material in the list was divided into a lower and upper segment of skills. Those employers with higher standards felt all of them were necessary; those with less-demanding requirements felt they could hire those with the lower skills, with the hope that the rest of the list would be acquired later. Those subjects that fell into the upper range were: rules and regulatory agencies; the requirements of ships, planes, trucks and containers, and an additional skill that came up during the discussion - proofreading.

A foreign language, and customer-contact skills, were regarded as valuable competencies if an applicant happened to have them, but not hiring requirements.

### Mode of Instruction

Although the employers voiced the usual preferences for on-the-job experience coordinated with instruction, they quickly recognized that this would be difficult to accomplish, particularly in the smaller firms. As in other groups, they were really trying to avoid classroom instruction so divorced from actual operating conditions that the products of such training find those conditions either totally unexpected, or shocking.

It was pointed out that the Maryland Port Administration, in Baltimore, sponsors a course in a community college. Although the basic instruction takes place in a classroom setting, the students are exposed to both the port facilities and the Port Authority offices in the course of their training, both to demonstrate the practical application of principles learned abstractly and to expose the students to the working atmosphere. The course is provided free of charge to students recruited in both the schools and the employment service, who are then screened for aptitude. The Task Force endorsed such a format and felt it would also be acceptable in New York.

The Maryland practice of using local members of the international trade community as instructors for the course was also endorsed, so long as this was understood to apply only to those matters involving technical information or current trade practices.

## Implications for Training

The general agreement among the employer representatives on the Task Force that training is not only preferable, but becoming a critical need, appears to indicate a potential for industry cooperation should training be undertaken. However, before a decision to initiate training is undertaken, it would be wise to determine what course the

World Trade Institute has adopted in relation to the provision of pre-employment, entry-level training. Although the Task Force seemed to feel that a substantial number of jobs are available for acceptable applicants, and that this number might expand if events like the establishment of a free trade zone occur in the City, it is difficult to ascertain how much of such demand could be accounted for by a WTI course.

On the other hand, there seems little doubt that no existing institutions could duplicate the broad orientation instruction that was recommended by the Task Force for the public schools. That this could be useful as a curriculum core appears likely; that it would be uniquely appropriate in New York City seems unassailable.

# INTERNATIONAL BANKING

In the course of discussion at the International Trade Task Force meeting, as well as the meetings on Clerical Occupations and Office of the Future, some representatives mentioned changes in legislation affecting New York banks' ability to participate in international banking as a potential source of new occupations or ones that might require new forms of training. Calls to the managers of international banking departments of some of the City's major banks, as well as to their personnel departments, yielded no training prospect.

The general impression among the department managers was that the new law might increase the work of their departments but not result in new training needs or career opportunities. As noted in the 1978 report on entry-level jobs in the banking industry, and again in this year's study of international trade, specialized recruiting is not used for clerical jobs. Some of those hired as entry-level clerical workers are assigned to openings in international departments and then are trained on the job. And no changes in this policy were envisioned. Indeed, there was little interest among personnel officers and department managers in the new legislation.

It was only through the State Banking Department that the nature of the banking changes was learned. According to reports they provided, changes in State legislation and Federal Reserve regulations effective November, 1981, will facilitate the establishment of domestic international banking facilities (DIBF's) in New York State, primarily in New York City. The legislation frees loans, deposits, and certain market trading transactions between foreign concerns from State and City taxation as well as from State and Federal Reserve requirements and limits on the interest paid on short-term deposits.

The basic purpose of these changes is to return to New York the business that had been siphoned off to London and "off-shore'' money centers in the Bahamas because the tax rate and other requirements had made New York an unfavorable location for certain international transactions.

These changes, it is said, would re-establish New York City as the international financial center. The estimated employment consequences, however, will be modest. According to a study made by the New York Clearing House, it is anticipated that these changes will generate 5,000 to 6,000 jobs, of which less than 2,000 will be directly in banking. The majority of the new jobs in banking will be in foreign banks' branches, or in agencies establishing banking units in New York City. In addition, it is expected that the banking jobs will result in indirect, industry-related job creation in printing, legal, and accounting services, and a similar amount in unrelated fields as a result of the increased consumption by these additional workers in the local area.

But considering only the jobs in banking the number is small. And moreover, the same study estimated that of these jobs, 60 percent in the smaller branches and 73 percent in medium to larger offices can be characterized as "unskilled or semi-skilled requiring no prior professional training." However, until the new legislation takes effect, the precise outcome is difficult to measure.

The primary source of this information was The Creation of Domestic International Banking Facilities in New York State, a report of the Economic Affairs Cabinet, Office of the Governor, room 242, State Capitol, Albany, New York, 12224.

# WAREHOUSING

At both the Freight Traffic and International Trade Task Force meetings warehousing was mentioned as growing in importance in physical distribution and as a possible subject for LMIN investigation. Members of these Task Forces were asked to suggest people in warehousing who could be consulted about whether a potential exists for training. The responses in these interviews were uniformly negative.

It was explained that warehousing is broadly divided into two segments, public and private. Public warehouses sell space and services to a variety of customers. Private warehouses serve the needs of only one company, and are usually owned by it.

In public warehouses, only the office staff was said to require any training at all, and that training is the simplest kind of basic clerical skill. Not only is there no special knowledge or skill required, but there would be no advancement opportunity even if such skill existed. Other jobs, besides the one or two management positions, require only physical strength.

Private warehousing is more varied, depending on what the specialized product is, but its internal conditions do not change as they do in public warehouses. Because of this lack of change, private warehouses have the possibility of being automated. Nevertheless, it was said, the planning of such automation is not done by the staff of a warehouse and after it has been accomplished it does not substantially change the character of warehouse employment. The only promotional opportunity, it was said, assuming the warehouse is owned by a large company, would be into other activities of that company. Consequently, pre-employment training to produce any desired effect, could not be focused on warehousing itself, and has as little applicability in private as in public warehousing.

Finally, the New York metropolitan area is considered by people in warehousing as a poor area for their services because the cost of space is high, as is the cost of labor.

# SERVICE

Because it has been said so often that New York City has a service economy, educators and trainers are led to believe that their trainees' best opportunities for employment lie in the traditional service occupations. Hence, such stress in training as on food, health and banking jobs, and the surprise at these programs' poor placement record.

At fault is a misreading of the statistics, which report the high employment in the service industries, and are misconstrued as high employment in service occupations. Service industries employ large numbers of clerical, sales, technical and professional, and managerial workers, all of whom are included in service industry figures. Their training is quite different from that for service-delivery workers.

Two of the industries reported on here are cases in point, in that they were suggested by trainers who thought they should be promising. Social service proved to be largely interested in professionals, and travel agencies in clericals. The customer contact report indicates a direction toward which trainers might look to provide currently relevant preparation for service occupations.

# CUSTOMER CONTACT
## Program Development Problems

This inquiry was a second consideration of customer contact skills first studied by LMIN in 1979. The findings of that study generated considerable interest; sufficient to warrant further study. The 1979 report, although rich in information about major company practices in training in these skills, was clearly only a first "go-around" and one that LMIN intended to follow up. But, before any specific plan for a second step was formulated representatives of a major City organization, a significant factor in training for in-school youth, asked LMIN to help them formulate a customer contact training proposal, and the 1981 meeting was the result.

### The 1979 Experience

In 1979, LMIN convened a Task Force to consider the feasibility of pre-employment training in customer contact skills. The interest grew out of two years of studying upwards of 20 occupations and industries in New York City. In discussing with employers their hiring requirements, this complex of skills assumed special significance as an important, if not the most important, qualification for a wide variety of entry-level jobs. If not a factor at entry, these skills were a significant criterion for promotion beyond that level. Yet rarely if ever were these skills a target of pre-employment training or vocational education, except as a minor and peripheral aspect of some few technical skill programs. Moreover, many of the employers who emphasized the importance of these skills were seldom able to define or describe them and were inclined to consider them as innate characteristics and not likely to be producible by training.

LMIN's plan in 1979 to construct a Task Force devoted to customer contact skills was greeted with considerable skepticism on the part of vocational educators and trainers. They felt that such training, if it did exist, would be addressed to managers or high-level sales representatives. Contrary to these expectations, LMIN found that increasing numbers and types of organizations, mainly in the private sector but also in some public agencies, were providing such training for both entry-level and somewhat higher-rated jobs, many of which had little or no specific education or technical skill requirements.

In short order a Task Force somewhat larger than usual was convened, composed of trainers who were entirely responsive to the questions posed. They came to the meeting convinced that the concept of such pre-employment training was sound. As one participant said, "These skills are so important and most applicants are so ill-prepared for this aspect of a job that we must give it a try."

In discussion, they isolated what they considered the fundamental components of these skills, irrespective of the particular job or setting, and began to formulate the general outline of a pre-employment program. It would be applicable, they thought, not only to the kinds of jobs for which they train, but to an even wider variety. For example, some of the factors that are used in screening candidates for many customer contact jobs - computation ability, tolerance for interruption, the capacity "to do two things at once," a facility for social conversation - were suggested elements of pre-employment training. But the essence of the curriculum, they said, should be the basic elements of customer contact skill - effective oral communication and the ability to maintain composure under the stress of interpersonal relationships.

## The Deficiencies

Most applicants, it was said, are rejected because of deficiencies in oral communication. They articulate poorly, lack coherence, and above all they lack the knowledge of basic courtesy and of acceptable language in a business situation. To a considerable degree these qualities are trainable, they agreed, and the basics rather than the particular verbal procedures applicable to specific jobs could easily form the major focus of pre-employment training.

The second attribute, the management of stress, they said, may be an aspect of personality and a product of various experiences but it, too, can be developed by training that provides some understanding of human behavior. The training should focus on the problems encountered in interaction with strangers, the situations typical of a variety of jobs.

Modules of training, already developed and tested by the trainers and used in a variety of settings, could be adapted for pre-employment programs. The training methods in use, for the most part variations on behavior modeling or transactional analysis, would be equally adaptable. And the 1979 Task Force said that this training is feasible in a classroom. These trainers said they often teach it in classrooms and away from the job.

They were aware that, divorced from a specific job, the training might lose some of its effectiveness and be less apt to be retained by the trainee. However, only by pre-employment programs could training in these skills be available to those who have not yet made a specific vocational choice and to those who without this training would be unlikely to be hired for a whole spectrum of jobs.

## Suggested Training

Many questions concerning the optimum setting, characteristics of trainees, choice of instructors, or length of the program were not answered in full detail by the 1979 Task Force. But its consensus seemed to be best expressed by one participant who said, "The success of such a program will vary with the quality of the instructors, the teaching environment, as well as the attitude of the students and the relationship of these skills to their vocational goals. But the field is ripe for experimentation and should be studied in different ways, but always with realistic goals." The primary goal that concerned them was "providing a basis upon which we can do the training for our specific jobs - generic training, that would also be applicable to a whole series of jobs - waiters and other jobs in restaurants and hotels, sales clerks, bank tellers, or jobs for which there is rarely if ever any formal training in the customer contact aspects."

LMIN maintained contact with several of the Task Force participants after the meeting. They apprised us of new training programs they had developed - for taxi dispatchers in an airport, and for emergency medical service personnel - as well as a proposal for a community college course to be offered as a generic subject unrelated to a specific job. A bank had designed a program in customer contact skills for tellers and was marketing it successfully to other banks around the country. In addition, some of the trainers would call periodically to ask whether the kind of pre-employment training they recommended was likely to materialize. Their interest stemmed from two considerations, a belief in the need for and value of such training to the job seeker and, in the case of many of them, a desire to have a more trainable supply of candidates available to their company.

## Convening the 1981 Task Force

When the one training organization signified its interest in meeting with industry trainers to move toward formulating a sound proposal for a training program, and several trainers who served on the 1979 Task Force said they were ready to meet again, a second Task Force was quickly organized. LMIN invited the representatives of a range of education and training institutions to attend. All except one community college where the faculty "could not see how this topic fit within the various academic disciplines" accepted with alacrity.

## The Discussion

In order to plan a discussion agenda LMIN asked the program planners what questions they would like discussed and the questions were circulated to all participants in advance of the meeting. But this apparently was insufficient preparation. What had been anticipated was a free-flowing exchange of ideas, building on the the 1979 report, between program planners and industry trainers to elicit more specific information concerning pre-employment training in different settings and for different target groups. What ensued could be better characterized as a debate concerning the merits of pre-employment training for customer contact skills. The atmosphere was charged and what little was accomplished was achieved only because the trainers, who train others to maintain their composure under stress, are themselves masters of this skill.

In such an atmosphere the results in terms of new information were understandably disappointing. And the prospects for program development appeared slim. Whether the meeting would have been more productive had the representatives of the potential sponsoring organizations been trainers themselves rather than administrators is one possibility. Another is that the program planners needed to meet together before meeting with the industry trainers to clarify some of the issues that appeared to trouble them. The underlying problem seemed to be a lack of any genuine belief in generic skill training or any training that was not job-specific.

## The Resistance

Thus, although little information that is entirely new was gathered at this session, the discussion disclosed the nature of the resistance to this form of training on the part of program planners in public and voluntary agencies. Understanding this resistance may be as important as knowing what industry trainers believe to be feasible. The program planners ostensibly were concerned with both the ability of the population they serve to assimilate these skills and the likelihood that employers would hire the graduates of such a training program. No matter what question was on the table, one or the other of these issues surfaced.

These concerns, however, may only be symptoms of a more fundamental problem, an understandable lack of conviction as to the merit of generic skill training. As one industry trainer remarked "This is, after all, a new and somehow threatening concept - teaching skills without reference to a specific job." Unfamiliarity with this concept frequently caused some confusion in the discussion as to the purpose of pre-employment training. At times the program planners perceived it as geared to producing job-ready candidates rather than only "laying the groundwork so that employers would consider them trainable." The conceptual issues were evident throughout and clearly discernible in the way in which the first question was posed.

### Can These Skills Be Taught In a Classroom?

When this first question was posed, a program planner made no secret of his position by saying, "Can it be taught in a classroom? I'm not convinced that it can."

The industry trainers unhesitatingly said "yes." A classroom is the usual setting for company in-house training, they noted. One suggested that if the questioner had in mind the traditional model of a classroom - students seated in rows facing an instructor "who talks at them" - then the answer would be "no." In order to avoid didactic teaching or rote learning and instead involve the trainees in the analysis of what constitutes effective communication or behavior there is a preference for an informal and flexible physical arrangement. One trainer reported that to foster informality and lessen competition between trainees his company is experimenting with self-study materials. Furthermore, to avoid any vestige of an authoritative manner of instruction or one that implies there is only one correct way, they have changed the title of the instructors to "group administrator."

Perhaps the real meaning of this question was whether this training can be offered before employment. Again, as in 1979, the trainers had little doubt about the feasibility of pre-employment training in basic communication or behavioral understanding. "If you can teach people to add, it's just as easy to teach them how to talk, to answer the phone, when to smile, and how to deal with anger." And, as in 1979, they noted that although company trainees have already been hired, their initiation takes place in a classroom prior to any actual job experience. "Since it may be quite some time before they are on the job it is in a sense pre-employment training." Furthermore, one participant said, "We only train those we hire as a matter of business necessity.

The generic training materials that the company uses, and that I helped to develop, could be taught to people before they are hired if they have the motivation to learn."

The immediate reply on the part of program planners was that only the promise of a job at the end of training is an effective motivator. "Training programs fail mainly because trainees drop out - they can't go the distance if they are not sure of a job at the end." One program planner said experience suggests that a job is not the whole answer. Nevertheless, the focal topic then became what guarantees of employment for program graduates could be expected from employers.

## Employers' Commitment To Hire

Although some trainers ventured that graduates from a well-designed program, in their opinion, would be well received, they, of course, were in no position to make commitments to that effect, nor would commitments be likely to be obtainable in advance of an actual proposal for training. "You can't get that out of this meeting. But once you have a program designed, I think our company would take the risk and make some employment commitments to support it." One trainer cautioned against stressing a guarantee of a job. He said that he was not sure that it was the appropriate motivating force. Far better, he said, would be "good counseling that provided the trainees with a real knowledge of the choices that would be open to them, the wide variety of jobs that depend on customer contact ability."

## A Separate Discipline? The Trainers' View

A question that received more attention was whether customer contact skills could be taught as a discrete entity apart from some technical work skills. The trainers' answers, again, were unanimously affirmative.

Customer contact skills are, to them, a free-standing subject in training for jobs that require no significant technical skills. But even where technical skills are a factor, they think customer contact skills may be taught as an entirely separate program. Some corporate training programs may, however, interrelate the development of customer contact ability with the technical aspects of the job. The consensus was that the training is equally effective either way and, ultimately, whether these skills are taught alone or not, is a matter of trainer preference.

One participant suggested that the choice depends on the level of technical skills demanded by the job. "When you are talking about the higher-level jobs such as 'customer service rep,' if trainees can't master the customer contact skills you're not going to invest the additional eight weeks of training time needed to master information about company service systems. On the other hand, for the lower-level jobs, where the technical level is not as demanding, you might want to do the reverse."

Another trainer suggested that although aspects of customer relations could be presented apart from the technology used, if the particular problem is "to mesh dealing with people while simultaneously dealing with technology," then they may be best taught together. "If you can't operate the computer, once you try to impart information the resulting tension may be transferred to the customer. Conversely, the individual well-versed in the computer can deal with people free from that stress."

Still another trainer said that his "general thesis was that the various skills should be taught separately." He looks at the totality of the job to get a sense of the context in which the worker relates to customers. "But, because I train for a variety of jobs, I am well aware that the problems are likely to be the same irrespective of the context of the technology in use."

At this point one of the trainers noted that this discussion was irrelevant to pre-employment training. "Our conception of a pre-employment training program in customer contact skills is to provide people with the basic attitudes and communication skills we look for in selecting trainees. We are looking for trainability and not finished products. Technical skills, beyond an introductory exposure to certain kinds of equipment, cannot be taught by anyone outside the company." Moreover, the technical skills are easily taught and "we have no trouble recruiting for this aspect of the job or determining in advance who can learn the necessary technical operations. But wouldn't it be wonderful if we could find people who are already displaying an understanding of the basics of courtesy and consideration and understand why saying good morning with a smile actually helps."

Pre-employment training for customer contact skills, the trainers agreed, should concern itself with basic principles "that can stand on their own and ones that are transferable from one occupation to another. We know they are transferable because we as trainers have worked in different industries and even within a single company have trained for quite different jobs. The wrappings may differ but the basic problems are the same. Ninety-eight percent of the time you are dealing with customers' emotional problems." To the trainers, the most compelling reason for the generic approach to customer contact skills in pre-employment training is to allow for a wide choice of jobs. "If I train someone to be a good car rental agent, they can just as easily become a good nurses' aide, a good bank teller, or a good hotel employee. And pre-employment programs should take advantage of this reality."

## The Planners' View

The program planners, however, seemed to have remained unconvinced. Their experience in training their clients, they said, points to the significance of technical skills as morale builders. They incorporate "employability skills" into technical skills training because technical competence gives trainees the confidence they need to relate to people. Those with a "failure syndrome" need to develop a positive self-image. This, they said, tends to develop better in "job-related training," apparently equating technical skills with job-relatedness.

The program planners rejected the reported experience of in-house corporate training programs as not applicable. "Anything can be taught by private employers to people they have carefully screened to select those who are interested in learning customer contact skills in a particular corporation. But if you are talking about the kind of population we have in New York City and the level they are at now, then you are dealing with something else. A universal problem is the lack of confidence of people who have not worked before or who have not succeeded in social experiences before. They have erected a defense mechanism - they are going to show you before you fire them because they are so sure you will. To try to teach customer contact skills in a classroom to this group would be a fantasy."

Other program planners echoed this opinion, noting their use of entrepreneurial experiences, sheltered workshops and work samples as confidence builders.

## The Debate

The industry trainers agreed that self-esteem is important and perhaps the personal attribute that correlates best with success in customer relations work. But they disagreed with the assumption that confidence is produced only by technical skill training or training relevant to a specific job. Training focused on an understanding of human behavior can develop a sense of "professionalism" they believe is at least equal to that derived from any technical competence.

A recent experience in training taxi dispatchers was offered as an example. "There are few technical skills of any kind in the dispatcher's job, but personal relations are important and carry a high stress component. Our training was totally concerned with helping the dispatchers improve their instantaneous communication with patrons. They presumably had no technical problems but as a result of the stress inherent in the job they were developing a negative image. The training definitely improved both their performance and their self-image."

Moreover, it was said, technical competence does not invariably produce the needed self-confidence for effective personal skills. "The one may have nothing to do with the other. Our program of teaching customer contact ability started because employees with technical competence were failing miserably in their relationships with the public."

Others agreed that formal training programs were initiated to remedy such failures in the inter-personal functioning of presumably otherwise competent workers. Finally, it was argued, "people skills training" in and of itself develops not only the security that comes from an understanding of behavior in general, but can also produce a better understanding of self. "The possibilities that unfold in the process of analyzing examples of behavior can open individual blockages. And you should not undervalue the props to individual esteem that come from learning the basics of courtesy and reaping the benefits not only in classroom simulations but outside."

Industry trainers are aware that self-esteem is a product of individual successes in various environments. But "confidence in your ability to handle people comes from successes in handling people. That's what customer contact training provides." Another trainer added, "Because our training systems are entirely different from conventional schoolrooms and consciously provide opportunity for classroom successes to people who have known nothing but classroom failure, the training itself is a reinforcement."

### Can You Teach This To Our Target Population?

"I've seen many of your offices and I've never seen the kind of people we teach. You begin with people who already have very sophisticated interpersonal skills as compared with the typical City high school graduate who is not going on to college. I think we'd be kidding ourselves if we said we could take this group, put them in some program, and your company would hire them for customer service jobs. My feeling is that your company wouldn't hire them and, frankly, doesn't have a lot of interest in them." This program planner was voicing with some acerbity what was a major concern on the part of his counterparts - that "the material we deal with is too damaged for this kind of training."

The trainers disputed this allegation. One said that "although the poorer the material the harder to train, maybe I'm too idealistic. If the resources and the motivation are there you can train anyone in

America to have good customer contact skills." Another said that customer contact skills do not "correlate perfectly with education or social advantage. Privileged children are as deficient in the basic elements and need to be taught as much as do the disadvantaged." Still others, noting that only in glamour industries and for some higher-paying jobs could companies cream the population, contested "the notion that we hire people with already sophisticated skills."

For one operation one company hired the bulk of its employees from within a 15-mile radius of the Newark airport, "which has to be the pits of America." Another said "we do hire the people you are talking about and they do work out." He acknowledged that "there might be a higher turnover, they might require more reinforcement, screw up more often, but it can be done and we do it."

The following dialogue is illustrative of the gulf that separates the two groups of participants.

> PROGRAM PLANNER: "We are talking about entirely different populations."
>
> INDUSTRY TRAINER: "No, I don't think so."
>
> PROGRAM PLANNER: "But are you talking about welfare recipients, long-term unemployed? You see, my feeling is that those that come to you are skilled and much better educated than those that come to us."
>
> INDUSTRY TRAINER: "Perhaps that's true for service agents but not for kitchen helpers and service workers. We employ a large population of Puerto Ricans with basically no education, many women who are heads of the household or former welfare recipients, and who speak no English."
>
> PROGRAM PLANNER: "I find that hard to believe."

The trainers apparently were unable to make a dent in the prevailing program-planner skepticism. It was summed up by one educator who said, "What we need is massive intervention in the formative years.

We could easily integrate training programs like this into the curriculum with money, but I'm skeptical about its success without commensurate massive intervention at ages 11, 12, 13."

## Big Companies vs. Small Companies

This led to the perennial charge that big companies don't hire "our people" and that the smaller companies are looking for different skills. This was refuted by a program planner who said, "they (the small organizations) want the same things. We work with them and the small businessman will rely more heavily on customer contact skills because otherwise he's out of business." One of the industry trainers, in agreeing, said that although he was employed by a big company because few small companies employ trainers, he would have no difficulty in setting up a training program to meet the needs of a small business.

## Screening

Toward the end of the afternoon one of the participants, apparently sensing the need to turn the discussion around to what had been the original intent, said, "If I were to design a program for low-income high school graduates, focused on customer contact dimensions, what should I look for and how should I train for it?"

One trainer answered that if the program was to be designed to offer the training to those who need it the most, whose life experience has been essentially anti-social, then the most important factor is motivation. Properly run, he said, good training can reinforce that motivation, but some semblance has to be there initially. Group interviews and multiple interviews are useful screening techniques "to see how candidates interact with peers, how they respond to questions about personal goals, appraise their own experience as a customer, and how they cope with the stress of the interview." The object, according to several of the trainers, is to look for some predisposition toward the work. Therefore, it is important to describe the nature of the various jobs honestly and fully enough to allow candidates "to practice self-selection."

The program planners found it "hard to believe that group and multiple interviews are used for entry-level jobs." Moreover, they doubted the utility of group interviews. "Few of our clients would be likely to say anything at a group interview."

Beyond this, little was said that was not a variation on one of the major themes, and the session ended with no overt evidence of any "meeting of the minds."

## After the Meeting

In conversation with the industry trainers shortly after the meeting, LMIN found that many had come prepared primarily to discuss screening and curriculum content. One said, "I felt that especially in the matter of screening it was important to differentiate between the objectives of pre-employment training and corporate training. A company is trying to minimize training costs. A pre-employment program is aiming to open opportunities to those who would likely be rejected."

Since most applicants are rejected because of deficient oral communication ability, she said, this ability should be a focus of training. But to what extent it should also be a screening consideration remains a question. Especially pertinent, then, was the experience in another company that has been providing remediation to incumbents who are not selected as trainees for a customer service job. To train the extremely inarticulate, or those who speak entirely in dialect, for a level of conversational skill that demands considerable variety and subtlety would be difficult. "But the rudiments of grammar, the use of past tenses, or of singular verbs with singular subjects, this can be taught. And anyone can be taught what is acceptable language in a business situation and what are courteous expressions." Other trainers found this plausible and emphasized that you don't have to "speak the King's English" to be a candidate. They also said that although oral communication ability may correlate somewhat with reading ability, grade-level reading scores are not useful selection tools.

Most significant, perhaps, was the often repeated caution against over-reliance on screening, "even to eliminate those who don't seem to have a chance. We may have to do that as a matter of business necessity but we are often wrong. Some of the least likely candidates surprise us."

This trainer would use self-selection as a guide. Another agreed, saying that self-selection should be the technique "if your goal is to help those who need these skills the most." Furthermore, it was noted, a generic program would have an advantage not open to most company trainers. It would not need to gear selection to a single job. The possible placements relevant to this training "run a wide gamut on the basis of the level of customer contact skills needed as well as the technical skills. So selection does not need to be fine-tuned."

Several trainers believe that in pre-employment training, as in in-house programs, the training period may have to be the ultimate selection tool, "letting people select themselves out without any stigma." One company implements this as a policy by allowing for a flexible time span for each training unit and insisting on an instructional attitude that says "if they don't understand it it's our fault."

## Curriculum Content

What little was said about curriculum content at the meeting was either in answer to whether customer contact skills can be taught as a separate subject, as already noted, or in response to a particular question on exit criteria. Some companies, it was reported, have been attempting to establish measurable performance criteria, but without much success. Several trainers agreed with one who said, "If a program can tell me that its graduates have been exposed to the fundamentals of customer contact and basic courtesy we would probably hire them as trainees without further specification." What he was saying, in effect, was what many employers have said in relation to a wide range of skills - that the motivation to enroll in and complete a course in a specific skill is usually a good basis for hiring.

The specifics of curriculum content was more fully discussed with the trainers in subsequent conversations. What they most often proposed was that in addition to the fundamentals of customer relationships, programs should include "a generic approach to a complex of technical skills." Customer contact would be the focus, but the training would encompass an introduction to the technical aspects of many jobs. These would be mainly office skills - computation, keyboarding, and introduction to input and retrieval of computerized information or, alternatively, typing and the operation of billing machines and cash registers.

## Specific Suggestions

The customer contact curriculum "would have its own specifics" including:

- The range of jobs for which these skills are prerequisites and the career opportunities that can result from their development.
- An understanding of the commonality of customer-relations problems irrespective of the different functions. "We deal with a range from diplomats to derelicts, but the behavior that works with them is the same."
- The various types of relationships with customers or the public. The difference between phone and in-person contact or between jobs that provide information and those that handle complaints.
- Specific techniques for interpersonal contact in a temporary environment and "why they work on the job and off."
- The value of a body language, eye contact, smiling, leaning toward the person. The "halo effect," or the effect on those on line who observe the treatment accorded the person at the head of the line.
- Verbal language used in proposing, expressing agreement, apologizing, seeking information, or making asides. The reason why certain verbal expressions sound critical or defensive even though this was not the intent.

- Listening for the real meaning being expressed.
- Human actions and reactions. The biological nature of stress and its observable factors. What brings on stress and what relieves it.

Contrary to the opinion that training of this sort in a classroom was seen as a "fantasy," one trainer said, "I believe that trainees would quickly perceive the practicality of this training not only to a job but in dealing with the stress of interpersonal relationships in their lives."

## Conclusion

Although this session did not materialize as planned it did provide some useful insights of two sorts. One has to do with the problems that program planners have with this kind of training. The other is the increasing interest in it on the part of employers. Both merit consideration.

With respect to the evident resistance to the concept of generic skills training, one possible reading of what transpired at this meeting is that generic skill training, at present, is an idea that receives lip service among educators and manpower program planners without any genuine commitment. Another interpretation, expressed by an industry trainer, is that "The seeming gap between what we were proposing and what the program people believe, is a product of several things - a tendency towards seeing the private sector as an adversary, and a belief that we in the private sector have it made and don't understand their problems."

Still another version, suggested by an educator, was that the resistance is the result of unfamiliarity with such programs. "Schools," he said, "are still structured as though New York City is a manufacturing economy and stress, therefore, all the wrong skills. What may be needed to succeed in today's service economy is customer contact. But this demands that we integrate into the so-called 'hidden curriculum' skills that for most of our population represent another culture. I think the schools have the resources and are not using them."

The attachment to training for a specific job rather than a generic skill and to technical rather than non-technical skills may, as he said, reflect a preference for the known over the unknown and untried. But it also may result from the necessity to "think in accordance with funding provisions." CETA funding is geared primarily to job-specific training.* It ventures little if at all into the world of non-technical skills and then, usually, as part of a specific job-training program. The same may be true to some extent of vocational programs in schools and community colleges. Note, for example, the need in community colleges "to fit within academic disciplines."

The repeated pressure for up-front guarantees of jobs for the trainees could be a function of uncertainties over the practicality of generic skills training. But it may derive more from the difficulties envisioned in securing funding for an innovative program without guaranteed employment for the graduates.

## "The Need is There"

The industry trainers were neither surprised nor dismayed by the resistance they encountered. "It's a quantum leap from what they (the programs) are doing" - nor did they see it as absolutely unyielding. "The demand is there. The need is growing. Graduates of a well-designed program would be highly marketable. The schools and training institutions will soon catch on."

They pointed to the increase in in-house training programs as evidence of the recognition of the significance of these skills and of their trainability. They noted also the growing volume of research and publication in the field. "Employers are aware that the new technology can drive a wedge between the company and its customers and requires interpersonal skills from employees who never before were thought to need such skills."

One trainer thought that if the meeting could have run on longer "there might have been more of a meeting of the minds." And it is possible that if the schools and agencies had been represented by trainers rather than administrators, there would have been more rapport. One program planner thought he might have "learned more in a one-on-one situation." But the presence of the trainers, their continued affirmation of the worth and feasibility of such a program, may have had an impact as yet not apparent. "After all," a trainer said, "there were explicit offers of assistance with program design and perhaps even with marketing the graduates. Someone may be tempted to experiment."

Offers of assistance were repeated after the meeting by the trainers, and although no jobs were guaranteed, each one offered assurances of company interest. A typical comment was, "I think my company would have a lot of interest - would welcome what might provide them with better employees for the same amount of training time."

Employer support, therefore, does not seem to present a problem, for the need for these skills extends well beyond the specific companies represented at this session. Curriculum models and materials abound, and there is a real possibility of borrowing industry trainers. One of those who participated said, "I would love the opportunity to show what can be done with a group of what are considered unemployables."

## Need for Innovation

What is needed is the stimulus for innovation, a stimulus that may need to be a specific call from top administration for a proposal as well as freedom from the usual requirements that constrain experimentation. One of the Task Force trainers developed an entire community college course in customer contact but it was not offered because it did not attract the required number of enrollments. This may be one reason why course offerings sometimes lag behind the changes in demand.

For CETA funding, it may be necessary to free a pilot program from such requirements as a fixed period of training time per trainee or from measuring success by the percentage of trainees who complete the course. These requirements would prevent a program from using the training as the basic selection device, as recommended by experienced trainers. In addition, a fresh attitude toward job-relevance of training and satisfactory placement may be needed. As currently required of or interpreted by contractors, there is little incentive for charting a new course.

# SOCIAL SERVICE EMPLOYMENT

## Job Developer and Child Care Worker

At the end of 1979, LMIN's second year, an advisory group was convened to make recommendations for the project's future direction. One member of the group, the director of a major voluntary agency, suggested that LMIN assess pre-employment training needs in the non-profit sector. Non-profit organizations in combination, he said, constitute an important employment sector in New York City; a New York State Department of Labor estimate is that total non-government non-profit employment in New York City is in the area of 250,000. Exclusive of management and professional levels that often demand specific educational credentials, and clerical and service functions that do not differ materially from their counterparts in the profit-making sector, there is a middle ground, or para-professional level, for which relatively little if any pre-employment training exists.

He noted further that non-profit agencies, too, are plagued by marginal efficiency, high turnover and, therefore, lower productivity which he believes stems in part from a lack of appropriate training for the non-professional service providers. Instead, the agencies tend to rely upon college credits or college degrees in any major field of concentration. "College graduates, especially liberal arts majors, are available at present, but they come to these jobs with no special competence or commitment and often altogether unrelated career goals. So they don't stay long enough to develop the needed skills."

An added reason to investigate the training potential in the non-profit field is that many CETA-funded programs focus on this sector as a source of work experience, on-the-job training, and transitional or even permanent employment. Some, at least, are not entirely satisfied with either the training or the employment opportunities. They are critical of "relaxed performance standards that may make the non-profit atmosphere more hospitable and comfortable for a CETA progam's clients, but are not adequate preparation for jobs in the private sector." They were troubled also by the lack of career opportunities within these agencies. These program administrators questioned whether training relevant to the entry jobs could improve the quality of the work experience as preparation for better jobs in the non-profit or the private sectors.

## Determining the Appropriate Method

When the LMIN project was refunded and began its third year of operation in September, 1980, the original proposer of the study of the non-profit world was again consulted. What he envisioned was a comprehensive survey, encompassing the whole range of organizations engaged in health, rehabilitation, education, fraternal activities, community relations, cultural affairs, fund raising, social services, and the like. LMIN began with the social service agencies because it already had established relationships with key persons in this field. It was soon apparent that even the social service area could not be covered adequately. Variations in the services provided and the type of clients served was one problem. Another was that some executive directors and personnel officers of social service agencies were not attuned to or interested in training for other than professionals. Moreover, they tended to be more concerned with recruiting qualified clerical and custodial employees.

## Selecting the Occupations for Study

The original notion of convening a Task Force to represent either a cross-section of the major segments of the social service field or the leading organizations within a single type of service was soon abandoned. Agency directors proved difficult enough to reach by telephone, let alone to interview. Instead, a modified field study technique was adopted. First consulted were executive directors of major coordinating and planning organizations in the social service field. They furnished LMIN with their perceptions of which occupations or service areas are more in need of pre-employment training, and the agencies likely to be receptive to that concept. Among them were geriatric services, predicted to continue to grow, manpower training programs because "they are the least professionalized of all," child welfare programs because they are "hurting for qualified workers," and a series of occupations - teacher aides, case aides, and various other aide titles - for which little if any pre-employment training exists.

Areas recommended for study were further examined by a series of individual consultations with officers of leading organizations in the field. Once the basic issues relevant to hiring and training were identified, the appropriate staff members of additional agencies in the field were consulted by telephone. These conversations were aimed at learning whether the views of those interviewed corresponded or differed from views expressed in the first consultations.

The information obtained is tentative and in many cases somewhat negative toward pre-employment training except as a theoretic concept. In the course of discussion with upwards of 40 agencies, the focus gradually narrowed to the role of job developer in employment services and the non-professionals employed in child welfare services.

## Areas Omitted From Study

The geriatric field was eliminated because initial consultations with agencies in this field indicated an oversupply of candidates for the aide functions. They are mainly college graduates who are satisfactory workers because they are equipped with the social skills and, in many cases, the needed commitment to this service. Moreover, they constitute a potential resource for the growing number and range of professional services required.

Teacher aides and case aides were excluded from study because no special training is required. In the non-profit field, college graduates again are a major resource. Moreover, a community organization director said, "Licensed teachers are available to us. So we are using fewer teacher aides." In day care, teacher aides are chosen primarily for their warmth, emotional stability and "their ability to function in an unstructured environment." No particular educational background is asked for.

Current hiring of aides by the City schools is mainly for special education programs. Those hired by the Board of Education need only be high school graduates but beginning in September, 1981 they will be required to enroll for six credits of college level courses that bear some "appropriateness" to their function. This requirement, apparently, is interpreted as any aspect of basic education, English language or mathematics, or any craft or occupational activity used in a program to which they are assigned.

Recreational programs all reported no particular training needs for aides. It is noteworthy, that one such agency was more interested in finding cooks and another was seeking benefits clerks. Recreation aides, they said, are plentiful.

Only one aide level function was suggested as a possible training target, and then only in response to a specific inquiry. This was the entry level job in residential or day treatment centers for emotionally disturbed children or adults. These jobs, variously titled as therapy aides, psychiatric aides, counseling aides, etc., may differ in specific assignments but generally require only a high school diploma and an interest in helping people. Whether these workers assist with classroom instruction, production work in a sheltered workshop, or general daily life in a residential center, "specific skills are less important than the ability to understand and relate to the client population." This ability becomes the focus of in-service training of those already employed.

Administrators of such programs, however, are ambivalent about the value of classroom training, especially in a pre-employment setting. One CETA-funded training program for jobs in residential centers for the mentally retarded was cited by one agency as a useful resource. The small numbers of graduates of this program apparently are placed. But the director of a similar program for psychiatric aides confided that placement was a problem. "The situation is one where training is needed, but whether it's worth training people before you try them out in this difficult environment is the question." One executive director of a major social service agency that serves a diversified clientele summed up the problem by saying, "Case aides - that was a phenomenon of the late 60's and 70's. They have largely disappeared, or at least are no longer a center of interest. They were either inadequately trained and therefore insufficiently productive, or they were the college graduates who after experience were almost the equal of the professional and exploited by not being given either professional status or a commensurate increase in salary."

## Job Developer

Interest in pre-employment training was keenest on the part of the staff of agencies that employ job developers. This role has attained considerable significance in conjunction with training programs of all kinds - classroom, basic education, ESL, skill training, OJT, or work experience, as well as various rehabilitation programs. Seldom are more than a few job developers employed within a single agency and probably no more than several hundred in the City at present. Their significance, it was said, far exceeds their number, because providing jobs for the clients is the ultimate test of success for so many programs.

Despite this acknowledged significance, surprisingly little if any pre-employment training exists that is relevant to this role. All project directors or personnel officers consulted recommended or endorsed the need for such training. This, they acknowledged, may not be the most auspicious moment for contemplating a new training project. Title VI and other federally-funded programs are being cut and the extent to which these cuts will be offset by State, City or private resources is far from clear.

But several of those consulted said that it may be a good time to determine the training needs. "Not all the jobs will disappear. And when funding reappears - you see, I am an optimist - then it will be the same old scramble to hire staff with no lead time for pre-employment development." Others noted that although the jobs may not increase at the moment, the training needs may intensify. Changes in the job market are widening the mismatch between jobs and an agency's clients and, in some service areas, there is a higher incidence of multi-handicapped clientele.

## Functions

In view of the diversity of the services rendered and the clients served, it is not surprising that the title job developer is variously defined. Differences in functions seem to correlate only partially with the nature of the program. At times, job specifications are determined by agency preference or the abilities of those who are hired.

In some agencies job developers focus mainly or exclusively on relations with employers. In others they relate both to employers and to agency clients, not only finding jobs but providing vocational guidance, placement and post-placement supportive services. This enlarged role occurs more often in skills training programs, both classroom and on-the-job, in which clients are at relatively similar levels of job-readiness and have definite employment goals. In such programs a training or teaching function may also be included.

In generalized employment services the job developer is more likely to concentrate on developing employer contacts and to relate only to those clients with either unusual skills or who require a specialized job search. Sometimes the job developer also handles the orientation to "the world of work." The last varies from routine briefings on how to dress, fill out forms and answer an interviewer's questions to a full-scale teaching role, promoting the ability of self-placement or "how to find your own job." Self-placement has been found by some agencies to be a particularly successful tactic that may become a major function for job developers.

Some agencies, it was said, might prefer to confine job developers to a single role but cannot afford the luxury of such specialization. Others may prefer employees who "can handle the total picture" but find it difficult to hire people who can relate to both employers and clients. The prevailing sentiment appears to be that job development is a separate function, distinct from counseling, and should be concerned mainly with establishing contacts with the business community. But to be effective the job developer must be able to work in coordination with counselors and trainers and have some knowledge about the needs and characteristics of the clients.

Even where the job developer's role is confined to searching out employment opportunities, the work may differ. Some are engaged mainly in telephone solicitation, using "a basic sales pitch" directed either to employers who already have been supporters of the program, or or who have published want ads. Others carry on intensive field work to locate new opportunities and educate employers, trade associations and the community at large to client capabilities. An administrator of an agency serving the hearing impaired noted this distinction by saying, "We do selective placement, not canvassing."

## Status

Job developers "may be low man on the totem pole," or equal in pay and status with counselors. In OJT programs in which the job developer provides some counseling they are usually ranked higher than those serving classroom skill training programs geared to a single occupation. Only infrequently is there more than one level within the job developer category. In one agency telephone solicitor is the entry-level and is a part-time job or a part-time assignment for a clerical worker. The field worker is the upper level. In another, the lower level is the one who contacts "the tried and true jobs and employers" and the upper levels are those who search out new opportunities. With respect to upgrading opportunities, they can either be negligible, or the job developer role can be a fast track to an administrative or managerial role. Some of the project managers who were consulted had begun as job developers.

## Hiring Requirements

Hiring requirements for job developers are far from standardized. Only a few programs focus on educational credentials. Agencies serving the hearing impaired require a Masters Degree in rehabilitation for the deaf because of the need to communicate with clients. Agencies regulated by the Office of Vocational Rehabilitation are required to hire on the basis of stipulated combinations of education and experience. Some few agencies prefer a Bachelors degree for those who will do field work and use the degree as a gauge of maturity and social skill. Many more look primarily for prior experience in similar work or in any kind of work with the target population. A few reserve the job for their clients. "Displaced homemakers make good job developers for their counterparts," as do some of the successful clients of sheltered workshops.

## The Supply

Many of those employed as job developers are college graduates, most often with a background in sociology, psychology, education, or social work. "Perhaps agencies prefer those with a social service orientation. But the issue is moot. Rarely do we see applicants with backgrounds in marketing, employment, or personnel work, or any kind of industry experience." Occasionally an applicant may have worked in an employment agency, experience one agency director dismissed as irrelevant "because you work only for the employers."

One agency deliberately avoids a helping service background and focuses instead on private sector business experience. As a result, they hire mainly older people, often mature women with business contacts gained through work or "life experiences." But this apparently is an unusual practice. Most agencies report an abundance of applicants, often with more years of schooling than demanded. As a group, however, "they are deficient in their orientation to business." "They don't last long enough to profit from experience or in-service training." Turnover is high, not only when the life of the project depends on the vagaries of funding, but also in more stable programs because of low salaries,* limited advancement opportunities and, according to some, because of "burnout" resulting from the frustrations of the job. Others note that at present "No one comes to job development as part of a plan. They usually have different or totally unrelated career goals."

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* Salaries vary, but one agency director said "Job developers often are paid little more than entry-level clerical workers."

## Would Training Help?

Improving the job developer's ability to relate to employers and reducing the turnover were the basic reasons for an interest in pre-employment training. As one project manager said, "Of the various jobs in relation to employment services, the job developer is the most appealing target for training. The lack of training for this job contrasts with the multiplicity or even overabundance of A.A., B.A., and graduate degrees in social work, counseling, psychology, etc. The need for a professional job developer has been seriously overlooked. Instead we use all manner of untrained personnel or those trained for other jobs - the MSW who knows nothing about business and those with Masters degrees in counseling who don't want to learn."

Training, it was hoped, would provide not only better-prepared but also more career-oriented workers, "better able to tolerate the frustrations of the job that are more than likely to increase." Would trained job developers be better compensated? The reaction to this question was mixed. Some believe they "will seem worth more" and would be more likely to be considered for promotion. Now, only the exceptionally able are considered.

## Curriculum Content

The comments concerning training often centered on whom to train. Sex, race, and age were seen as entirely neutral considerations. More important factors, it was said, are maturity - emotional rather than chronological - the ability to talk with employers and an outgoing personality. Some saw these considerations as aspects of training as much as of screening.

The job was often analogized to selling, and thought to demand similar training. One project manager said, "Sales skill training is a reality. It is rooted in effective communication ranging from basic telephone skills to the more sophisticated - listening as well as talking, understanding the customer's needs, in this case, the employer - and having sufficient knowledge of and commitment to your product, in this case the client - to make a deal." In addition, training should aim to develop a tolerance for pressure, the ability to allocate time, an appreciation of the significance of precision in maintaining records, the ability to write brief reports and a willingness to adapt to the style of dress, behavior, language, etc. appropriate to the business community. Emphasized by some was a knowledge of how to handle rejections "so as not to be devastated but learn from them instead."

Several questioned whether these qualities can be produced in classroom training. "Perhaps training can only indicate the importance of these skills. And in the process encourage those with insufficient interest or ability to deal with the job or to drop out."

The other aspect of training, perhaps its core, is understanding the labor market. This should include familiarization with terminology, job titles, occupational and industry classifications, and with sources of information such as trade associations, unions, government agencies, etc., and current labor market trends. But training in how to talk with employers, to assess their needs and concerns, "is the crux. You have to develop a continuing relationship with employers and this depends on your ability to convince them that you understand their problems well enough to provide them with a service - screening candidates for them."

## Work-Study Possibilities

Only part of this, they feel, can be achieved in a classroom. Opportunities are needed for trainees to observe actual job developers at work and for role-playing in a variety of situations with "real employers, if possible." Experienced job developers, it was said, have a store of knowledge as to "what works and what doesn't," information that should be included in a training program.

Irrespective of the extent to which job developers relate to agency clients, it was agreed, they need at least a basic understanding of the types of clientele likely to be served. They must be able to "educate employers to see the positive attributes of persons who usually are perceived only in the negative." To do so they need to understand the true impact of educational, physical, and mental handicaps on employability. This aspect of training, it was agreed, need not be more than a sensitizing process "because agencies are able to teach what is needed to know about their clients, and individual agency specifications vary."

## Training Models

Some models for training already exist in in-service programs in the New York State Job Service training for placement counselors, and specially prepared seminars offered by educational consultants and attended mainly by those already employed as job developers. One trainer of such a program asserted that the training could be far more effective if offered pre-employment, before the trainees have already adopted what may be an ineffective method based on limited experience.

The agency personnel consulted made a convincing case for the need for training for job developers. But they were not sure that the training would attract trainees, in view of the uncertainties as to the number of jobs, the lack of stability, and limited wages and opportunities. In its favor the job developer, unlike many other occupations in social services, has counterparts in public and private sector employment for which this training would have considerable relevance. Graduates might be considered for personnel work, in employment agencies, and by temporary manpower services. The majority seem to feel that only a small pilot program should be attempted at first and some felt that such a program might have a special value if it was designed for those who have not attended college. This might attract those with greater attachment to the job who, after training, might be equal if not superior in performance to liberal arts college graduates.

## Sheltered Workshop Staff

Another area suggested as a possible training target was the sheltered workshop. Here, also, there is a need for staff training. The skills demanded for assisting and supervising in these workshops - production skill and the ability to deal with "problem people" - especially in rehabilitation services for the psychiatrically handicapped, are seldom found in a single individual. The choice most agencies face is to hire those with production experience and train them for the client relationship, or as a few have attempted, hire college graduates who majored in psychology or a related field and thus have some understanding or empathy with the client, and teach them the work skills. Only in the largest workshops are the two functions provided by separate staff members. Most often the floor aides, and foremen, must be able to handle both aspects.

## Hiring Policies

Hiring policies differ somewhat, depending on whether the workshop is primarily a training situation preparing clients for eventual outside employment or a perpetual work environment for those unlikely to be able to make the transition. In some training programs licensed teachers may be required by the Office of Vocational Rehabilitation. Where the clientele is severely disturbed or retarded the trend increasingly is to hire college graduates. However, there are agencies that hire as floor aides "the same people a factory would hire for its unskilled or semi-skilled work at the minimum wage." Some few promote clients to floor aide.

All of those consulted prefer an industry background. They find that it is harder to teach the work skills. Social workers "are professionals and take pride in not knowing anything about factories." And others with a helping service orientation, "have a hard time dealing with a production schedule." Experienced factory workers are more satisfactory role models and better able to impart the work skills. However, understanding the client is important not only to maintain a satisfactory level of production but also to diminish the inevitable conflicts between production goals and clinical or counseling goals. At present, agencies rely mainly on in-service training.

## The Nature of The Work

The typical workshop is rarely involved in technical work but concentrates on low-level benchwork, assembly or packaging. Because clients' productivity is of necessity subnormal and the contract work available from companies is often temporary or seasonal, the fluctuating income may not cover the cost of workshop operation. With little hope of increasing levels of the State subsidy, few managers see much possibility of increasing salaries of the workshop staff.

All those consulted endorsed the need for training, a need they say will increase along with the increase in multi-handicapped and severely disturbed clients.* But most were skeptical about the value of training. One said, "Who would enroll in training to get a $150 a week job with little hope of promotion?" But another suggested that the job might be an upgrading opportunity for factory workers now locked into monotonous work. This agency now hires some production workers who are nearing retirement for jobs that compare favorably, when salary and benefits are combined, with unskilled factory work. And "they welcome a change in environment and respond well to in-service training."

One agency director said that he could conjecture that a good training program directed toward an A.A. degree would increase the workshop's staff's competence - they would be able to supervise a greater number of workers and upgrade their productivity - and ultimately allow those trained to assume added management responsibility. Managers who are now often those with business management experience might be then promoted from the ranks of workshop foremen. But he doubted that this would change the wage or organizational structure sufficiently to warrant an investment in training.

## The Outlook for Training

There are only a few hundred such jobs in the metropolitan area, suggesting at best an opportunity for only a small program. Therefore, a core program to develop "a kind of generic understanding of the impact of handicaps of various types on behavior as well as employability" might be more useful. Such a program is needed for aides who work in therapeutic programs of all sorts. Occupational therapy programs, for example, have different goals from workshops, but the paraprofessional skill requirements are similar. One agency director said, "there's an undeniable logic to the notion of a core training program just as there is a clear need for training. Moreover, we have found that training tends to attract better people. But I don't think that it will have much effect unless the wage levels are raised. And the likelihood is that unless the jobs change radically, only those already employed in them would be interested in the training."

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* They could not explain this phenomenon, but all commented that the clients served are becoming more severely impaired.

## Child Welfare Work

Despite the reputed difficulties of recruiting child care workers, little enthusiasm for pre-employment training was displayed by executive directors and recruiters in a variety of child welfare agencies. As one said, "It's not that it's not needed. It's just that you can't justify the time and cost of training for what is hardly a viable career at present." And another said, "The situation is to be deplored if the end goal is to restore a healthy child to the community or the world of work. The lack of training is a national disgrace." But the job for non-professionals, especially in residential settings, is tough and unrewarding work, low paid and with little opportunity for advancement.

### The Nature of the Work

What was once a quasi-family structure for children who, because of social or economic problems were unable to be cared for by their natural parents, now serves "the failures of all other institutions - hospitals, courts, schools and, of course, families." The case loads are heavier, the children are far more disadvantaged than in earlier years, yet State accountability standards tend to reduce the average length of stay. Thus, it was agreed, the role for the non-professional, the surrogate parent, the role model and the principal direct service provider, has become more demanding.

In group homes, functioning under various titles, these workers perform different combinations of housekeeping and child supervision functions. The therapeutic directions are determined by professionals, social workers, psychiatrists, etc., but the child care worker is often the principal implementer. In addition, they are responsible for the childrens' physical well-being, for the maintenance of the residence, supervision of meals, cleaning and laundry, at times requiring actual food preparation and housekeeping. They must also plan and oversee the children's after school activities.

In institutions, where the children are either newcomers in the process of being assessed or those who temporarily or for a longer term are deemed unable to adjust to a group home, the housekeeping functions are less important. The children are generally more disturbed or retarded and require closer supervision.

## Hiring Requirements

Hiring requirements for the job are few. A high school diploma generally is preferred but not absolutely demanded. Educational background is less a factor than experience in working with children. Salaries are generally conceded to be low. In some agencies the salaries are no higher than those set by state and City reimbursement rates, or only slightly above the minimum wage. Agencies fortunate enough to have some additional funds may offer a wage scale somewhat higher than the reimbursement rate. But in general the child welfare field is low-paid, even for the professionals. One executive director noted that under State formulas parole officers are paid more than graduate social workers in child welfare agencies.

In some organizations where the job calls for living-in, the hours of work are an additional limitation. An additional problem is that the organizational structure offers little in the way of advancement opportunity. Only a few supervisory positions can be attained without graduate degrees, usually open only to those who have served for several years. The opportunity for study is restricted further because many of those who do not live in hold two jobs or have familial responsibilities. A few agencies provide a series of gradations within the non-professional ranks, but even so the child care worker generally tops out at a $14,000 salary level.

## The Labor Supply

It is not surprising, then, that recruiting is difficult. A few agencies note an increasing percentage of college graduates among their applicants. But the labor supply was described by one recruiter as mainly those "with no skills who can't be hired for anything else, and the well-educated who can't find a job in the field they want. Only a few come to this work with a commitment to it or a career interest in the field." The result is "a monumental turnover, which is not only a management problem but a service limitation. Relationships cannot be as easily established between child and worker." In general, it was said, those who remain on the job are usually the lesser-educated who have few job alternatives. They are not necessarily less effective service providers than the better-educated "because there is no evidence that a college education is preparation for handling these kids. But without even a high school diploma they are clearly limited in a career ladder dependent on educational credentials."

Some agencies have been studying the factors associated with job stability as well as with satisfactory performance. One study has found that neither age nor education seems to be correlated with performance. The qualities that make for successful and stable work seem to be patience, "the ability to detach oneself from the abuse that must be tolerated," a willingness to accept criticism and, at the same time, accept the lack of any immediate or visible results. These qualities agencies aim to develop in in-service training that presents the theories of child development along with practical instruction in how to plan and supervise activities and deal with specific behavioral problems.

## Would Training Help?

Pre-employment training, some believe, might attract a better applicant or one more realistically prepared for the demands of the job and less likely to "burn out." But how many potential workers would enroll in such programs is the question. Some of those interviewed not only doubted whether a significant number would enroll, but also whether classroom training could prepare them for the job. But the main reason for the skepticism is that child welfare "is a second-rate career - it's like providing training for ditch digging." Some seemed resigned to worker instability. As one recruiter said, "We do not expect them to stay. We look for one or two years of service."

Experience with pre-employment training is negligible. There are programs in child care at some community colleges, most not exclusively concerned with child welfare services. Rarely, it was said, do the graduates apply to child welfare agencies. These programs have been used by some agencies to offer training to their employees. For several years during the 1970s, Stony Brook University offered an open-ended child welfare training program. Although considered by agency directors and by its faculty to have been a success, "improving the lot of its graduates within the limits of the occupation," i.e. some pay increments and special consideration for promotion, it was dropped when funds available under Title XX were cut. Most enrollees, however, were already employed as child welfare workers. This confirmed the view on the part of many agency directors, that upgrading rather than pre-employment training has more potential. Therefore, they are particularly concerned that funding to reimburse them for the cost of training should include released time.

## Future Outlook

In addition to current problems there is a general uncertainty about the future. Agencies are concerned not only with the economic constraints that may preclude raising the reimbursement rate. An additional concern is the tendency in political circles to attack this field as one that is corrupt, ineffectual, or both. The current emphasis on adoption and preventive strategies such as family counseling, suggests further neglect of residential child welfare facilities.

A few optimists take comfort in the fact that the City, this year for the first time, is contemplating reimbursing agencies for the cost of in-service training. One executive director hopes this will stimulate reassessing the staff training needs. In addition, the Association of Child Care Workers continues in its efforts to professionalize the occupation by offering certification on the basis of training or evaluated experience plus a passing grade on an examination that tests theoretical and practical knowledge. But they, along with many agency directors, believe that training alone will not transform child welfare work into an attractive occupation. To do so will take considerable organizational restructuring.

## Conclusion

This study is not comprehensive. But consultations with a considerable number and variety of agency personnel leads to the almost inescapable conclusion that voluntary social service agencies are not at present a fertile field for pre-employment training. The current climate is not conducive to planning in a field that is generally characterized by difficulty in planning staff needs. "Predicting the impact of funding is tougher than forecasting the stock market." Currently, not only is public funding in doubt, but the amount that will be realized from private sources is also questionable. As a result, many agencies are not hiring at all at present.

The fiscal uncertainties are only one part of the problem. The organizational structure is also less than favorable. Some agencies rely almost entirely on professionals. But even where numerous and demanding non-professional jobs exist, the salaries and the career opportunities often do not justify pre-employment training. Many are conceived of as a transitional job for college graduates on the way to another career, not necessarily related to the social service field.

The job developer seems to be the most promising training focus, but it is a role that in some agencies needs to be better defined and integrated into the agency structure. At present, however, it is "on hold," given the uncertainties concerning the magnitude of federal funding for training and employment activities. The reamining titles are not unlike the home health aide studied by LMIN in 1978 - needed services and ones that require trained workers, but occupations for which training cannot be enthusiastically endorsed because of the limitations of the job itself and as an entry to other activites. And even in the event of improved conditions, the likelihood is that these occupations are better suited to training that is offered to upgrade those already employed than to new entrants.

# TRAVEL AGENCIES

In the fall of 1980 LMIN undertook to study the travel industry. The first contacts made with travel agents, however, were not encouraging. The industry, they said, was in the throes of a recession. According to the personnel officer of a nationwide travel service, the travel field "is not worth exploring because this is the worst time for the industry for 21 years." Another explained that airline layoffs have saturated the market with experienced ticketing agents, "so the opportunities for trainees are minimal." Moreover, some reported a "flood of college graduates willing to take the entry-level jobs."

At the same time, there were several who said they were too busy to talk with LMIN. One explained this seeming contradiction saying, "The phone is our lifeline. You can be just as busy going broke as making money."

## Second Try

Later, in the winter of 1981, because the travel field was still attracting the attention of trainers and educators - Kingsborough Community College was awaiting approval of an elaborate proposal for a travel and tourism curriculum - LMIN made another attempt. This time travel agencies were somewhat more responsive. There were still some too busy to talk, and others who asserted that at certain seasons - seemingly any month in the year - "you couldn't realistically expect to assemble a Task Force in this field." Only a few consented to be interviewed either by telephone or in person. Of these, a number provided only perfunctory answers to whatever questions were posed.

As a result, LMIN abandoned any notion of a thorough study of this field not only because of the difficulty of making contact with the "right" people, but because this kind of busy-ness and lack of interest in a full discussion of the issues involved in hiring and training employees, in LMIN's experience, is a fairly reliable indication that for some reason, employers are not interested in pre-employment training.

In the course of discussions with the few who were agreeable to conferring with LMIN, some reasons for the lack of interest became apparent.

One travel agency president said, "Travel is a glamour field. Everyone wants to be a travel agent. I get many unsolicited applications from people with totally unrealistic views." The realities that she and others made note of include economic considerations that are making this an "increasingly tough and competitive field" and the nature of the work, "only partially a creative endeavor - and then for only the fortunate few."

## The Size of the Industry

First, no matter how you measure it, the travel field does not offer a vast number of jobs. According to leaders in the industry and in the trade association, despite some increase in foreign business, the number of jobs is not growing. Gains in some segments of the industry are offset by declines in other areas. The shift from the relatively costly individual trip to the less expensive group travel in pre-arranged tours, as well as the tendency of businesses to scrutinize more carefully the travel needs of their staff, is cutting down on the number of jobs in the industry. Moreover, one travel agency president estimates that the computer has nearly doubled the dollar volume of airline travel an individual worker can book.

## Number of Jobs

The State Department of Labor estimates total City employment in 1980 in travel agencies as 9,000. In order to expand this number the contemplated community college program and existing college and graduate programs gear their courses to jobs in hotels, motels, airlines, railroads, bus lines and car rental agencies, as well as to travel agencies. At the middle or upper management levels toward which these courses aim to prepare their graduates, this expanded definition may make sense. Management and marketing aspects in particular are affected by many of the same considerations "whether you are selling hotel rooms, transportation or a packaged tour." But at the entry-level this widened scope is of questionable value. Many of the jobs are sufficiently dissimilar not only in their functions, but in the opportunity structure to which they are linked. The ticketing jobs in airlines may be similar to those in travel agencies where booking flights is a significant activity, but hotel front desk clerks not only perform different tasks from the clerk in a travel agency but are on a different career path. Often, the only common denominator among entry jobs in the different industries within the hospitality field is basic office work skill plus, in some instances, a degree of customer contact ability.

LMIN elected to confine this study to mainly travel agency employment. The hotel industry was studied in detail in 1978. Relatively few entry-level jobs in hotels relate to travel per se as compared with providing room and board to the traveller. And these few, it seems, are better viewed within the hotel industry context. Airlines, car rental agencies and the Port Authority were active participants in LMIN's customer contact Task Forces. For the most part they are not interested in other forms of pre-employment training, preferring to train in-house.* Moreover, the agencies devoted exclusively to travel planning and arranging are themselves a varied group.

## Travel Specialties

Agencies vary in size from nationwide systems to "Mama-Papa" or neighborhood firms, and are sometimes run by retirees from their homes. But they also can be comprehensive services or specialists. The major areas include leisure or recreational travel for individuals or groups, commercial or point-to-point service for corporate or individual business customers, and wholesalers who develop tours to be sold to travel agents. Still another area is ground service, offering guided tours of a particular locality. Guides, however, are most often students or teachers engaged on a seasonal or part-time basis. There are in addition subspecialties. One agency focuses on arrangements for business meetings or conventions, another on tennis travelling.

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* The new crop of small airlines will hire only experienced workers.

## The Nature of the Work

The major categories of employment are sales and office work. Clerical work predominates not only in the number of jobs but as an activity. One agency president referred to an industry cliche that says "Every travel job has its clerical aspects. There is no room for the travel agent who won't do some clerical work or the clerical worker who can't do some travel work."

The balance between the two aspects varies with the company size and the specialty, as well as the job level. In a large organization that provides comprehensive service the only jobs for beginners are those that demand nothing beyond ordinary clerical skill. In retailing, ticketing, a travel specialty, is a principal function for clerical staff. In addition, clerical workers type schedules and routine letters. In the commercial field, in travel agencies as well as in in-plant corporate travel departments, the work is described as 90 percent clerical. "This is the factory-like work, an array of clerks at CRT terminals." Ticketing is not a factor in wholesale organizations. Airline and cruise line travel departments are mainly wholesalers. The entry job is an operations clerk who issues invoices and tour documents, and maintains records of available hotel and air space. But these are not technical functions, they require only some typing, basic arithmetic ability, and a "high school knowledge of geography."

## Requirements

Most of those consulted claim they hire only or mostly experienced workers - experienced in office work, at least. "This is our policy although the work could be learned on the job by an intelligent person." The insistence on experience was typical. One agency, the lone exception, is willing to "hire right off the street anyone who speaks nicely and types 50 words a minute." Rarely was pre-employment training mentioned. Indeed, most hold the numerous private training programs in low esteem. There are, however, good training programs run by the American Society of Travel Agents, by some airlines, and by travel agency franchisers. But these are usually relatively short-term evening, after-hours, or correspondence courses for those already in the industry. For example the ASTA course is two evenings a week for 12 weeks.

These courses, it was said, are important to the industry because the opportunity for upgrading through on-the-job training is limited. Even so the promotional opportunities are limited. The sales work requires a level of product knowledge, i.e. expertise in travel opportunities and selling ability. The sales agent in the wholesale field, the growing and better paid field, is often an expert in one country or one type of travel activity and "sufficiently knowledgeable to create an entirely new tour." In retailing, sales is often a part-time occupation, compensated exclusively by commission, and salespersons must command their own "following." Usually, it was said, progress beyond the entry level demands direct travel experience to be able to evaluate accomodations and select points of interest "so as to determine the destinations and time allocations for an itinerary."

### Implications for Pre-Employment Training

Travel agency executives often said that they might be willing to hire an inexperienced worker for an entry job if they had good basic training. Training that might substitute for experience would include basic office skills including light typing and an understanding of computers, geography, a knowledge of travel regulations, familiarization with research materials - schedules, maps, facilities, documents, travel literature - and how to use it, selling technique and "how to talk to customers."

Repeatedly, it was noted, although a high school education should be enough, "if you want to get ahead you need a college education for the necessary ease of communication in a sales job." This preference for college graduates plus the current lack of interest in the inexperienced worker does not augur well for lower-level training programs. In addition, there are trends and uncertainties within the industry that bear watching. First, among the chief attractions of the field were the possibilities for self-employment or operating a small business. Currently, the financial requirements for a recognized travel agent are rising. In addition, smaller firms are in jeopardy because "they can't do the cumbersome comparison-shopping for fares needed since de-regulation nor do they have the bargaining power to be able to match the rates a big operation can offer." In addition ASTA is engaged in defending the travel agent's exclusive right to sell airline tickets for a commission. "It has been proposed that anyone be able to sell tickets and collect a commission. If we lose, it will change the nature of the industry."

Several times it was noted that the industry is becoming more sophisticated and perceiving a greater need for training or for "professionalizing" the jobs. Perhaps this will stimulate more interest in pre-employment training than now exists, especially if the supply of college graduates diminishes. It would be well to watch the community college program's experience, should the course be offered. Meanwhile, travel for the entry worker is best construed as a possible job for a qualified office worker who has a background of world geography and genuine interest in further study of this field and in developing sales ability. It should be noted that one travel school claims to place its graduates at salaries of $125 to $150 a week, a level low enough to be believable but not much of an endorsement of the value of the training.

# COMMUNICATION

Like other studies reported in this volume of third-year work, these were generated by leads that arose in the course of previous investigations. As they turned out, neither of these provide promise of large numbers of jobs, or of jobs suited to the capacities of those who are most difficult to place in employment.

Nevertheless, there is an aspect of these two occupations that bears on current employment problems in an instructive fashion for those concerned with pre-employment training. Unlike the studies in the preceding section, these illustrate the newer style of service jobs. In addition to being related to the communication industry, a number of the jobs described here involve the employee in service to a customer that is a blend of both tangible product and customer relations in which both are equally important, so that neither can be sacrificed for the other.

With service employment growing in relation to other, older categories of work, and particularly so in New York City, trainers and planners might look to the occupations described in these studies for clues to what might be the critical factors in pre-employment training for an otherwise unrelated spectrum of service jobs.

# AUDIO-VISUAL OCCUPATIONS

Audio/visual and multi-media production is a growing segment of the communications industry. Yet, in New York City there are few programs available which offer training for occupations in this area. It was industry's reaction to the 1979 Task Force report on Graphic Arts which provided the initial stimulus for LMIN's study of audio/visual and multi-media occupations.

Through a series of preliminary interviews and site visits, LMIN found sufficient interest in pre-employment training among employers to warrant the convening of this Task Force. The Task Force participants included representatives of both large and small production studios, in-house production studios in advertising agencies and corporations, and representatives from a publicly-funded training program and a New York City High School.

Audio/visual is a loosely-used term which refers to "anything involved in the creation on slides of an image which is projected and synchronized with sound, to be used in a presentation" for purposes of training or marketing. Slides, films and video tapes (excluding television production, theatricals and motion pictures) are used to create the visual effects. Reel-to-reel tapes or cassette recorders are used to create sound. Mixed-media or multi-media refers to the standard audio/visual components supplemented by the addition of brochures and live entertainment.

## Increasing Demand

An increase in the demand for audio/visual and multi-media services may be attributable to the effectiveness of the medium, "the general decline in reading and literacy throughout society," even at the managerial level, or to a television-bred society's craving for an audio/visual component in communications. In any case, these services are utilized by a wide range of institutions including commercial corporations, television studios, educational institutions, church groups and industrial trade associations. Corporate audio/visual departments are often the "outgrowth of internal communication needs" and have led some corporations to turn their "photography departments into audio/visual communications departments with a special emphasis on audio/visual production."

Audio/visual and multi-media productions are used for educational purposes - to teach and demonstrate skills; for motivational purposes - externally in sales promotion and/or in-house to introduce new products or concepts to management; and for informational purposes - to explain corporate programs or policies to employees or in the preparation of annual reports to the Chairman of the Board.

Audio/visual and multi-media organizations run the gamut from the "one man/jack-of-all-trades" operation supplemented by freelancers on an as-needed basis, to the large production studio with about 50 employees. Most producers specialize either in the preparation of materials for marketing or for training, although some of the larger production studios produce both.

## The Nature of the Work

An audio/visual or multi-media production begins with a conception - "what is wanted, who the audience is - the basic idea of the show." It is in the art department that the show is translated into visual concepts as a "storyboard." At this stage the work divides in two directions. Some elements are created as "art work" in paste-ups and mechanicals. Others are assigned to a creative photographer to be produced as photographs. Both are then given to the technical photographer to be produced as slides. Once produced, the slides may by dyed or gelled, special effects may be added, and the slides must be mounted.

Simultaneously with the production of the slides a script writer prepares a narrative to accompany the presentation of the slides and the audio department has the script narrated. The narration is frequently "mixed" with music. A programming department "decides how the show will be seen, using one or more projectors, and these are often synchronized and coordinated by a computer." Finally, the staging department, after having surveyed the location of the showing, sets up the necessary equipment and presents the show or demonstration to an audience.

## Role of Pre-Employment Training

At present New York City has no publicly funded training or education program to teach audio/visual and multi-media production skills. It is surprising that this segment of the communications industry, which several representatives describe as "young and growing" should have attracted so little notice. Participants note that "New York City is the center of audio/visual and multi-media activity" and offers a variety of employment opportunities, although it is difficult to estimate accurately the number of jobs available. The Task Force was agreed that, although the current supply of entry-level personnel is adequate, their quality is poor. The Task Force believed that training could provide a better qualified pool from which to draw employees, "develop standards for entry into the profession, and stabilize the source of talent."

As one participant said, "I have from time to time run across some very intelligent, dynamic, young people who come to me and say, 'I would like to do something in audio/visual, but I have little training.' They may have run a projector once when they were in high school or something like that, and that's the extent of it. So I really have to start from scratch."

The Task Force estimated that approximately 80 percent of the jobs in the industry require technical rather than creative skills. Available entry level jobs, which tend to be "less glamorous and less creative," offer an "opportunity to grow up in the industry" - especially in the areas which require technical expertise. Advanced education is not a prerequisite for most jobs, which require instead a "craftsmanlike approach."

## Supply

Audio/visual is a "glamour field" and many "who are attracted to it, initially, drift away into other areas." Task Force participants reported receiving large numbers of "unsolicited resumes" as well as telephone calls from job seekers. Most of these applicants are interviewed because "you never know when Mr. or Ms. Right will come along." Many applicants are "overqualified graduates of college-level communication courses," art school graduates, or students of film, seeking creative and lucrative positions. Often they "have no idea about the reality of the business and are unwilling to start at the bottom." Many employers said that they would, in fact, prefer to hire trained high school graduates or college drop-outs to fill entry level positions. While college training is desirable for the more creative jobs, most of the positions in the industry, according to Task Force participants, require technical rather than academic training. "Production is where the glamour is, but the money is in the hardware."

Work in this industry is project oriented, with an uneven workflow, and therefore some of the jobs are part-time and/or temporary. As a result there is a "floating pool" of people available for both entry level and more skilled positions. Actors, musicians, and sculptors often compete for entry level jobs, such as "slide mounter." Among the more highly paid, technically skilled freelancers in the industry are programmers. Many employers said that they would prefer to hire full time "dependable personnel" to part-time or temporary employees.

## Entry

Because there are few established training programs there is little direct entry into audio/visual and multi-media occupations. Some are attracted by the "glamour" of the industry while, for others, chance is a significant factor in entry. Many of the Task Force participants entered audio/visual and/or multi-media occupations via such other segments of the communications industry as advertising, television production, and photography, or even from architecture.

Most of those employed in the industry received their training informally and on-the-job. Participants said that the skills needed for low-level entry positions are easily taught and quickly learned. Messengers, for example, "can learn to mount slides while waiting around to deliver or pick-up a message or package." Access to training is often through in-house promotion from positions in the mailroom or as messengers, secretaries, or receptionists. Those who are perceived to have "a feeling for sound or picture," display an interest in photography or audio equipment - such as "a hi-fi bug" - are more likely to receive on-the-job training. One participant described them as people "who haven't wanted to continue their education, but feel creative."

## Hiring

A high school or equivalency diploma is used most often as an indication of basic literacy. Although "there are no hard and fast rules" with regard to hiring criteria, employers are in general agreement about many of the attributes they look for in prospective employees. These include some or all of the following: attention to detail, some knowledge of film and photography, familiarity with the equipment, "listening ability," and some degree of manual dexterity. In addition, certain personality factors or social skills such as patience, cooperativeness, initiative, and eagerness to learn, are desirable.

Because the demand for audio/visual and multi-media services is erratic, the industry prefers versatile employees who are able to function in several production areas. Therefore it is impractical to employ only specialists and the industry tends to be "moving away from specialization." "The reality, however, is that you hire a specialist, because hiring is always done to fill a specific need." Even though hiring criteria may be specific to the particular job, employers prefer the candidate who also has "a general orientation to audio/visual and multi-media." In other words, employers want a specialist who also has "a cluster of audio/visual skills."

There are several entry level positions which require relatively limited skills. Many of these positions do not have clear titles. For example:

> In the art department, basic graphic art skills - the "nuts and bolts" - such as paste-ups and mechanicals - are required.
>
> Camera or photographer's assistant includes splicing film, developing negatives, possibly operating the projector, and requires darkroom experience as well as familiarity with the equipment.
>
> Slide mounter is probably the least skilled entry level job, and usually involves cleaning and mounting slides. Dyeing and gelling may be required or taught on-the-job.
>
> Phototypesetting, which involves setting type "by character not by word," requires keyboard familiarity and manual dexterity.
>
> In the staging department, job duties may involve setting up and operating projectors under the supervision of experienced technicians, maintaining records of equipment usage, general maintenance and minor repair; hiring requirements include basic electronic knowledge as well as familiarity with the equipment.

## Technical vs. Creative Skills

Audio/visual and multi-media production, even at the simplest level, involves the synchronization of a projected image with sound, and demands a variety of technical and creative skills.

Several employers suggested the art department as the focal point for pre-employment training, but the consensus of the Task Force was that training should be in technical rather than creative-academic skills since this is the area of greatest need. Within the industry, there are opportunities for trained personnel in the following areas:

1. "Technical photography" which includes stand photography i.e. operation of the Forox or Oxberry camera, duplication of slides, and application of the techniques used in the creation of multiple images, dissolving, etc.

2. Computergraphics is used in the creation of designs. In its most elementary application it involves using a keyboard to "punch letter after letter" into a computer and in one of its more complex applications involves the use of "a light pencil to draw a design on a CRT screen."

3. Programming, which combines technical and creative skills, "is the artistic marriage between the audio and visual components" and uses the computer to control projectors in order to create one of several special effects such as the impression of time passing.

4. Staging, which has responsibility for all of the equipment that "goes out on shows," includes surveying the location, setting up and operating the equipment, keeping records of equipment usage, as well as general maintenance and repair.

The use of computers in the audio/visual and multi-media industry is expanding and demands "specific technical knowledge that incorporates design concepts." Computers are currently used in a few applications including typesetting, computergraphics, and programming.

## Technology

The technology in this industry is changing so rapidly that equipment can become obsolete within a year or two after its introduction. Given the constant need to upgrade and replace equipment, few training programs and schools would be able to operate fully-equipped and up-to-date studios because of the cost. And training would suffer because, as one participant said, "50 percent of the job is just knowing the capability of the equipment."

## Implications for Training

Task Force participants believe that a pre-employment training program in audio/visual and multi-media production would be helpful. Such a program should provide the specialized training needed for particular jobs within the context of a general overview of the industry. The course should have a broad enough scope so that students are made aware of the full range of career opportunities and are able to select from among several areas for more intensive and specialized training. The general course should:

- Give a total picture of what a slide looks like at the end, what the equipment does and how it works, where a slide show would be used
- Give an individual interested in a particular work area a perspective of where that particular area fits into the whole and allow him to use his own initiative
- Explore areas to give a fundamental grasp of how to do the whole job - script writing, storyboarding, slide mounting, photography, equipment operation, how to select and mix music, direct narrators - the whole concept.

Since varying degrees of technical skill are necessary for positions in audio/visual and multi-media production, the most efficacious program would be comprehensive, with provision for exit points at several stages in the training. These exit points should correspond with skill mastery levels to provide the industry with "job ready" candidates. Training, therefore, could be offered at the high school level, within a CETA program, and/or at the community college level. Ideally some type of coordinated approach involving all of these training institutions could be established.

Trainees could be self-selected based on informed career guidance. The introductory audio/visual and multi-media course, which provides a general overview of the industry, would assist screening and at the same time enable trainees to identify areas for further study such as technical photography, etc. Each of these areas would then constitute the focus of specialized training.

Because the cost of equipment is prohibitive for schools and training programs and "hands-on experience with the machinery" is essential, Task Force participants recommend that any program incorporate some form of industry internship. Regular instructional staff would need to be supplemented by industry lecturers so that the program would be able to keep current with the state of the art. Task Force members urge the use of simulated work situations in order to put trainees "in touch with the real world - so they realize audio/visual is not a nine-to-five job."

## Conclusion

Audio/visual and multi-media production for sales and marketing activities is a growing industry in New York City. Although opportunities for employment are expanding, they are not numerous. And because the demand for audio/visual and multi-media services fluctuates with the economy, predictions about future expansion are little more than rough estimates. Moreover, the demand varies with the particular market served. While most Task Force participants were forecasting expansion, firms that specialize in audio/visual productions for schools were less optimistic. They have been hurt by the decrease in federal funds available to educational institutions.

The synchronization of sight and sound is the essence of audio/visual and multi-media production and involves a variety of procedures and skills of differing degrees of complexity. As a result, there are numerous entry points for candidates with "a specific salable skill." As one participant said, "primarily they have to do something well -- they can mount slides, dye, gel, etc." The specific skill will provide entree and become a springboard for further growth and development. Therefore, any training program should combine a general overview of the industry with specialized skill training. Ideally the program would involve the coordination and integration of education at the secondar and community college level with exit points along the way leading to different levels of employment. Industry support and involvement in this endeavor is crucial, in terms of both technical and creative skills. If the training is to keep pace with technological developments, some mechanism for coordinated planning between industry representatives and trainers must be developed.

# PRINT TRAFFIC

Occupations in traffic develop from the need to control work flow and plan manpower use. The occupations occur in such diverse fields as transportation, publishing, advertising, printing, information media, and manufacturing. Throughout this variety of settings, traffic departments have in common a primary responsibility for completing an assignment on schedule.

Despite this common denominator, there are real differences in functions. Even within communications, operational differences distinguish radio and television traffic from traffic in printing, publishing, and advertising. Since the last three did, however, appear to be related, LMIN decided to organize one Task Force for that group, under the heading of Print Traffic. The occupations in radio and television, which involve the maintenance of records for regulatory agencies, were not found to be appropriate for pre-employment training and, as a consequence, were not studied by LMIN.

## Task Force

The suggestion that LMIN study the potential for pre-employment training for jobs in traffic came as part of the industry reaction to the 1979 Task Force report on Graphic Arts. The suggestion originally was restricted to the traffic occupation in advertising agencies.

Although advertising is a major industry in New York City and employs a significant number of people, LMIN sought in preliminary interviews to determine whether, if training were deemed viable, it might relate to more than just one occupation. By pursuing this question in interviews and site visits conducted with a range of employers it became evident that substantially the same skills and information required of traffic personnel in advertising agencies are also sought for traffic jobs in magazines and by printers. On this basis representatives of publications and printing establishments were interviewed and invited to join the Task Force on Print Traffic. Although some of those invited did not attend, the information they offered in telephone interviews was used to supplement the data provided by the Task Force members in both their individual interviews and their discussion at the Task Force meeting.

## Personnel

Print traffic personnel regulate the assignment and distribution of work, estimate costs, coordinate related activities, develop schedules, and route materials internally. One Task Force participant compared his job to that of a "traffic cop." "It's getting all of the elements, putting them together, and making sure that they all go to the proper place and the job is completed on time." Employees with these functions may be located in a separate traffic department or as a subordinate function within a production department. As a result, the line between traffic and production is sometimes blurred.

In general, where traffic is a separate function it encompasses all the factors involved in the successful completion of a project and tends to be more comprehensive than production. Production, as usually defined, is more directly involved with technical aspects of printing and publishing, and, though narrower in scope, requires a higher level of technical expertise.

In advertising agencies, where a division between traffic and production occurs more frequently, it is expected that the traffic person, although less expert, will understand how each department in the agency functions and how it interfaces with other departments. However, a sharp distinction emerges in how the job is defined between large and small agencies. In the larger agencies the traffic person is expected to "know about printing, about media, about account work -- it's a very broad-based job." In the smaller agencies, traffic personnel are more intimately involved with the various facets of agency work and are expected to have more technical competence, particularly in production, even though there may be a separate production department. As one participant put it: "A traffic person cannot do the job you expect him to do if he doesn't understand production. It's like not having your left shoe."

The traffic function in a publication is not generally located in a separate department, but as a secondary function within the Production Department. Production itself is divided between editorial and advertising functions. Editorial traffic involves shuttling the copy in and out of editors' hands at each stage of the process -- the processing of manuscripts to type galleys to page make-up, etc. Although editorial production involves both logistical and mechanical functions, it requires less technical expertise than advertising production but better language skills. Advertising production, in addition to being more technically demanding, is also considered the more responsible job because advertising mistakes can be very costly. Similarly, in mass-distribution magazines, advertising takes precedence over editorial matter, and, as a consequence, work in production traffic has higher status than work in editorial traffic.

## Differences

A major difference in relation to advertisers between publications and advertising agencies is that the "agencies are more client-oriented" i.e. the agency must satisfy the client. As in an advertising agency, production assignments in publications are usually by account.

As described by most of the printers interviewed whose shops were large enough to warrant traffic/production departments, the workers in this category need greater knowledge of printing than is required in advertising or publication, but not to the level required of actual printers. Also, the traffic/production personnel in some printing plants have both in-plant and outside activities. In the plant, they superintend the flow of work between departments and resolve problems that may hinder that flow. Outside, they are sent to visit a client after a salesman has received an order to determine some of the finer details of what the client expects and to anticipate difficulties that might lead to dissatisfaction with the work. Consequently, these traffic/production jobs are sometimes seen as a proving ground for potential salesmen.

## Entry

There is no established route in advertising into traffic positions, although there is a clear route through and out of traffic to positions in production or as account executives. For many, traffic is a "stepping stone." "The traffic department in any advertising agency is the best place to be if you want to learn the business," one participant said.

Some advertising agencies transfer or promote entry-level clerical employees into traffic positions. While traffic "may be a lateral move with respect to pay, it is a promotion in terms of career opportunities." In these agencies, the route to traffic is from secretary, mailroom, receptionist, "guy or gal Friday," etc. In addition to improving morale and performance within the agency, in-house promotion and training helps keep costs down. Prior exposure to the fast, harried, high-pressure pace of advertising was given as another reason for promoting in-house personnel with prior experience in that environment.

## Job Titles/Job Descriptions

A wide range of titles exists in print traffic. Despite the abundance and variety of titles, job descriptions for entry-level positions vary only slightly. The position may be called "traffic trainee, junior traffic coordinator, traffic typist, traffic assistant, junior production manager, forwarding assistant, production order writer, assistant traffic manager, or production assistant." The duties involve some or all of the following: keeping records, maintaining schedules, entering information into a computer, handling correspondence, keeping logs, and helping to "move it along."

Opportunities for promotion within traffic departments in advertising agencies, however, are limited. Since traffic jobs at the higher levels are relatively scarce, promotion often involves changing employers. The job of "traffic coordinator, traffic planner, or traffic operator" involves simultaneous responsibility for multiple accounts. The "traffic supervisor" oversees all operations. Policy is set at the "assistant traffic manager or assistant traffic director's" level. At the top of the hierarchy is the "traffic manager." Depending on the size of the agency, some or all of these titles may be used.

In publications traffic is merely one among many functions in the production department. Below the managerial level, job titles and descriptions tend to be general. The job may be called "junior production assistant" or "assistant production manager" and usually involves layout and make-up. In one publication, regional advertisements are separated from national advertisements with a senior production assistant being responsible for "national ads." Job assignments and policy are set by the production manager.

## Hiring Requirements

When internal promotion or transfer is not used, college graduates, community college graduates, or individuals with "some" college education are hired to fill entry level traffic positions in advertising. Some of the secretaries or receptionists who are transferred or promoted to traffic positions have attended, if not graduated from, college. While these positions are not closed to high school graduates, "it is rare to find one who has the necessary skills, attributes, and degree of maturity required for this job."

The ability to communicate effectively under stress is an essential component of traffic work. Traffic people must "be aggressive without being obnoxious," and cope with "people who are screaming and yelling all the time." Therefore, employers look for people who possess many of the following skills: excellent memory, good command of language, detail orientation, "willingness to learn," ability to set priorities and exercise judgment, and ability "to work under the gun." In addition to seeking intelligent, articulate, ambitious people who can work long or erratic hours under pressure, the employer wants someone whose personality suits the particular "type of agency" or organization. Determinations of intelligence, personality, etc. are made by interviews and based primarily on "gut feelings." As a result, hiring tends to be highly subjective, although large organizations may use the personnel department to pre-screen job applicants.

## Supply

Large advertising agencies and magazine publishers appear to have no trouble filling entry-level positions. The image of "glamour" which is associated with these organizations attracts a large pool of candidates, including college graduates, who will accept virtually any position to "get a foot in the door." The smaller, more specialized, agencies encounter more difficulty in attracting and retaining qualified people. Many people who seek positions in advertising and publishing are unaware of the existence of the small organizations.

"Pirating" is a common practice engaged in by the agencies. The small agencies "pirate" secretaries and receptionists from the large agencies to train in traffic work. Training in the small agencies tends to be more comprehensive and emphasizes production functions, whereas in the large agencies it tends to be more specialized. The large agencies, particularly those which do not train, "pirate" trained personnel from the small agencies, because the training received has been comprehensive. As one participant said, "Any traffic person who has a production background is in solid anywhere." Also, the lack of promotional opportunities within the small agencies leads to high employee turnover.

Magazine publishers draw their applicants from the same pool as do advertising agencies. In selecting publishing rather than advertising as a career, chance appears to be the determining factor. In printing, the situation is different. Background in printing is a prerequisite to entry and hence limits the supply of candidates.

## Technology

Technological changes are affecting traffic jobs. Several advertising agencies, publications, and printers have described how they are already making use of computers to generate and track order forms, print labels, store historical data, and to assist in billing. Traffic will involve greater use of the computer when computer programs specifically designed for traffic applications are developed.

Publications are currently in a transition stage, converting from letter press printing to offset printing or rotogravure; within five years, it is said, the change will be complete. In the not too distant future, satellites and digitized tapes will be used for transmitting materials. It is not clear at this time how these changes will affect traffic functions.

## Training

Traffic skills are, apparently, learned on-the-job and are taught "at the discretion of the supervisor" or acquired through "osmosis." Training can take anywhere from a few weeks to several months.

Initially, members of the Task Force began by asserting that each of the areas - printing, publishing, and advertising - has unique requirements which necessitate specific training. Discussion soon revealed greater similarities in traffic functions than had been anticipated originally. As one participant, said, "Although I started out thinking that traffic jobs in the various areas may be quite different, I'm hearing that there is great similarity. I think a traffic man from an agency can come to work for a publication and I think that probably it is as true vice versa."

In fact, two Task Force participants had hired traffic people from "the other side of the business" and had been satisfied with the results. One participant noted that the "basics of traffic are similar in all areas." "We've had people come in from other areas who worked in fine. They get a little book that tells them all about printing and in two weeks they're working with no problem at all."

While there is agreement about the generic nature of the training and its general transferability, there is no consensus with respect to the usefulness of pre-employment training. The reasons for this response emerged in the course of discussion. Some Task Force members viewed such training as only a screening device to select interested candidates. Traffic is itself viewed by some as training for another occupation, especially in the advertising agencies. One participant said that he could provide the minimum technical knowledge to begin functioning on the job within a day, and that pre-employment training would make a candidate "almost overqualified for the job." Some, however, already operate their own in-house training programs and favored pre-employment training as a way of reducing training time.

Nevertheless, the Task Force was able to agree on the content of the training. Training should provide a general overview of printing, both production and traffic functions, including the following:

A. Introduction to the terminology e.g. "gutter bleed"

B. Principles of work flow in print traffic

  1. How advertising agencies and publications operate including a description of the structure and function of each department and how it interfaces with others

  2. Use of standard rate and data books

  3. Preparation of work and status reports

  4. Use of cross checks and alternative systems available

C. Overview of print production

  1. Different printing processes including the technical limitations of each

  2. Mechanical requirements of publications e.g. sizes

  3. Scheduling

D. Human relations skills.

In the course of the discussion, the Task Force concluded that human relations skills, an important component of this job, could be trained. In 1979 LMIN's Customer Contact Task Force identified the two primary human relations or social skills as oral communication and the ability to maintain composure under stress, and recommended a pilot program. While this Task Force did not specifically address the content of human relations training, communication skills and stress management were mentioned within the context of hiring requirements.

It was easier for the Task Force participants to decide what the content of pre-employment training should be for print traffic positions than to determine the level of education at which the training should be offered. To some extent, this appeared to be at least in part a function of the self-image prevalent in the different industries represented in the discussion. The advertising and publication representatives, reflecting the "glamour" image that their industries enjoy at this time, were more inclined to visualize pre-employment training at the two-year or four-year college level. They saw the training as broadly based and directed either to communications or to advertising, but providing more understanding of technology than is now generally done in such courses. They resisted the idea of employing recent high school graduates on the ground that they are not "a stable commodity." When pressed, however, they conceded that "unusual" high school graduates would be able to perform at entry level in such jobs, particularly if they had received some training. Printers, who also said they preferred students from specialized college courses in printing, were more inclined to entertain the idea of hiring from specialized high school printing courses. They would prefer, however, that the high school printing course be augmented with more specific instruction in the need for and technique of traffic than is now customarily provided.

## Conclusion

Despite their doubts about the usefulness of pre-employment training, and uncertainty as to the appropriate level at which to offer training, the Task Force was able to define training content. The reasons for this ambiguity were discussed by the participants. The prevailing pattern of accidental entry, the limited promotional opportunities, combined with the job's relatively low status within advertising agencies, and the tendency to use traffic as training for positions in production or as account executives, helps to explain this ambivalence towards traffic as a vocation. Also, perhaps the idea of pre-employment training itself is so novel that the participants could not conceive of its utility.

Analysis of comments made by the Task Force indicated that they would really prefer an education and training model that does not now exist formally in occupational education. This would be an integrated track bridging both secondary and higher education, with the potential for exit points leading to different levels of employment along the way. The curriculum for such a model appears less difficult to conceive than the means of establishing and implementing the necessary coordination between what are now essentially unrelated institutions.

# CRAFTS

Craft skills have probably been served longer by pre-employment training than any other category of work skills, and yet it is in precisely this area that current training receives its sharpest criticism. LMIN has devoted relatively little attention to training for craft skills because of their decreasing quantitative importance in the New York City labor market, and the difficulty of breaking through institutional barriers in both craft training and craft employment.

Despite the strong influence in this vocational area of traditional practices and attitudes, the following studies have in common that they reveal the growing importance to employers of changing requirements that are imposing the need for new kinds of employees trained in hitherto unheard of ways for jobs that may still carry old titles but which demand new skills. They also convey the prospect that if employers find they cannot obtain the workers they need from the older institutions on which they have relied for providing a work force, they will have no alternative but to break away from those institutions and set up new and more relevant ones.

# DENTAL LABORATORY TECHNICIANS

Government statistics report that in 1978 there were 44,997 dental laboratory technicians in the United States, of whom 2,595 were in New York City. The National Association of Dental Laboratories, it was also reported, recently told a member that it cannot determine the number of dental laboratory technicians because the title is so poorly defined that the Association does not know whom to count.

Between these two extremes lies an occupation that, according to the Occupational Outlook Handbook "is expected to grow faster than the average for all occupations" and is, therefore, of continuing interest to programs and agencies interested in training for and placements in employment. Under the impetus of one such expression of interest LMIN undertook a study and convened a Task Force, even though the number of annual job openings in the City for this occupation is estimated variously as between 100 and 200.

## The Task Force

As the study commenced with individual telephone interviews it became apparent that dental laboratory proprietors are, as a group, organized and knowledgeable. They understand their industry's labor requirements. They are articulate about what they do and how and why they do it and, for the most part, sufficiently interested in finding solutions to their problems to accept interviews. A relatively high percentage of those approached agreed to participate in a Task Force. At the same time they were, in combination, ambivalent about training for reasons that became much of the substance of the study and, separately, highly individual in their views of their industry and its manpower needs.

Participating in the Task Force were not only representative laboratory proprietors, but also spokesmen for the college-level and proprietary-school training institutions that account for much of the vocational preparation that now exists. Among the employers were a number who hold office in the industry association, or similar groups.

## The Industry

Part of the work that dentists do is the design, construction, and insertion in a patient's mouth of prosthetic devices, ranging from crowns and bridges to orthodontic devices. The technology employed in the construction of these devices has, in a relatively short time, become extremely sophisticated. Not infrequently, capital equipment is required that cannot be justified economically by the requirements of an individual dentist's case load. In addition to these technological requirements, the construction of these prostheses may still also involve a good deal of hand work that can require high levels of manual skill, or be very time consuming even if the skills required are not so high. Frequently, the rational utilization of these skills requires allocating the work to different workers at different stages in its completion. For these and other reasons most dentists find that in comparison to time spent seeing patients, time spent on constructing prostheses is not economically justified. Therefore, they send all or most of such work to a dental laboratory where it is performed by one or more workers whose skills are lumped together under the title dental laboratory technician.

If a dental office has a number of dentists working in it, either individually or in some rationalized division of labor, that office may have its own laboratory. Some extremely difficult or rare procedures may still be sent to a technician specialist. Hospitals and other health-service institutions may also have their own laboratories. But most dental laboratories nationally and in the City are private businesses set up to provide, as a service to dentists, technical work that the dentists cannot do, or cannot afford to do.

## State Regulation

Under state laws, which are fairly uniform in this regard, government control over standards of practice in the manufacture of dental prostheses apply only to dentists. Only they are licensed to do work of this kind. Impressions and other plans and models taken in a patient's mouth must be taken by a dentist. After the device has been manufactured, only a dentist may insert and adjust it in the patient's mouth. Except for a few very limited procedures, like matching a shade of porcelain to a patient's teeth, the dental laboratory technician may not work directly on a patient.

According to the Task Force, the dental laboratory technician is legally an extension of the dentist. Responsibility for the standards of work provided to a consumer resides exclusively with the dentist. From the dentist's point of view the dental laboratory technician and the dental laboratory are contractors; from the patient's point of view they are sub-contractors.

## Laboratory Size

As described by the Task Force members, dental laboratories range in size from 200-worker, factory-like settings capable of undertaking all or almost all possible assignments, to one-worker operations that may be set up in the individual's attic or garage and often are restricted to one or a few operations at which the technicians are adept, or consider themselves to be. In between are operations employing two to five persons and still in the "small" category, and laboratories with a dozen or so workers that are considered of "medium" size.

A rule-of-thumb that was provided is that 20 per cent of the laboratories are in the "large" category and do 80 per cent of a dollar volume that is roughly $1.2 billion annually. Nevertheless, the number of and percentage of small laboratories persists. It is the medium-size laboratories that, under current conditions, are being found to be relatively uneconomical and are going out of business.

Asked whether dentists tend to use small laboratories for specialty work and large ones for either routine, or highly technical assignments, the Task Force members responded that this is not actually the pattern. In practice, they said, dentists tend to form associations with individual technicians for particular kinds of work, regardless of whether those individuals are solo operators or employees in a large laboratory. The dentists specify not only what they want done, but who they want to do it.

## A Separate Profession?

Within the Task Force there was division on whether, conceptually, dental technology should be regarded as an independent entity or as a segment of dentistry. As the issue was discussed it became evident that the considerations are essentially issues that arise from the economic relationship between dentists and dental technology. Some of the implications pertain to training.

Almost unanimously the Task Force members condemned dentists as being exploitative of both dental technicians and dental patients. The contention was that many, if not most dentists routinely charge their patients from 300 per cent to 500 per cent more for the dental technician's work than the technician receives from the dentist. It was also contended that at the same time many dentists consistently shop among laboratories and self-employed dental technicians for the cheapest possible price, ignoring or compromising standards of quality in the process. (The Task Force did not include a spokesman for dentistry to comment on these contentions).

The laboratory proprietors present felt very strongly that the solution to many of their manpower problems lies in the licensing of dental technology and dental technicians separate from the licensing of dentists and dentistry. That would mean state-imposed standards of what could be represented as a dental laboratory, and of who could represent themselves as dental laboratory technicians. In this way, the employers said, the public would be better served through improved standards for the appliances provided to them by dentists, and the dental technology industry would be able to upgrade its work force because it would not have to scale its wages to meeting the competition of incompetents offering low-priced work.

If they could pay more than minimum wage for entry-level trainees, the employers said, they would be able to attract higher quality in applicants for those jobs and, as a result, improve their work force because the higher-quality entrants would be able to learn both faster and more.

## The Occupations

The industry divides dental technology into five categories which, in ascending order of complexity, are: crowns and bridges, full dentures, partial dentures, ceramics, and orthodontics.

The National Association of Dental Laboratories, through a special board, gives written and practical examinations to candidates for the title Certified Dental Technician. Although not a legal title, it is an aid in seeking work from dentists and employment in dental laboratories.

In the industry, the term dental technician represents a person capable of handling an assignment in each of the five work categories from its inception through its completion. In actual practice, except for one-man shops, this is not done. The skills of such a specialist are considered wasted on the many lower-skilled operations called for in bringing a project to completion. Instead, the work is both specialized and rationalized.

## Organization of Work

Specialization involves the training and employment of personnel who concentrate on one, or on a related group of the five categories of work. Rationalization involves the application of what in this industry is called the "step-process." This is an assembly-line technique, modified for circumstances in which each product coming into the line is different. Depending on how an individual laboratory proprietor organizes the work the "steps," which are actually individual workers, may be as few as two or three or as many as a dozen. Each worker becomes skilled in one step of the production process and the resulting product is said to be made quicker, as well as possibly better and cheaper.

Thus, workers in dental technology can be either generalists or specialists. Unlike other health technologies in which the two are distinguished by calling the former technologist and the latter technician, the dental laboratory industry insists that technician means the broadly-trained individual. It uses the terms specialist and step worker for the others, reserving the former for the more highly-skilled workers.

Although some Task Force members felt that the generalist, or technician, is better suited, after appropriate work experience, for supervisory and managerial positions, others reported that in their experience specialists were just as likely to become managers. The same division emerged in the discussion of who is likely to become a laboratory proprietor. There was agreement, however, that the person trained to be a generalist but who proves inadequate in manual dexterity, can become a salesman for a laboratory. This assumes, however, that this person has the proper "sales personality" and has been able to assimilate an understanding of the technology and its vocabulary.

## Salary Levels

Salaries range from minimum wage for totally untrained persons hired "off the street" as trainees for the most menial positions, to $30,000 a year and more for highly skilled specialists in the more difficult categories, such as ceramics and orthodontics. One large laboratory recently reported offering $50,000 for a highly skilled end talented ceramist.

Earnings are not necessarily higher for the self-employed technician or the one who has started his own small laboratory, employing a few others. Sometimes, it was reported, the impetus for the technician to set up his own business is that he has "topped out" in his ability to acquire higher skill and command more pay from an employer. As a result, his level of expertise in a laboratory of his own may be relatively low and, consequently, his earnings no better than as an employee. His decision to remain in business may then be based on considerations other than earnings.

## Current Training

Training of dental laboratory technicians is now provided in New York City by one community college, a number of proprietary schools, one public high school, and employers who for a variety of reasons do on-the-job training of their own. The community college provides a two-year course directed toward the generalist concept of occupational preparation. Most of the proprietary schools, which were said to vary greatly in quality of instruction, provide a shorter version of the same approach, although some offer an option that is not much shorter. One proprietary school trains only specialists in one or related categories of the technology. The high school gives an overview of the industry and an abbreviated introduction to the technology.

Some proprietary schools are now owned and operated by large dental laboratories. They try to attract as employees the better graduates of their own programs. In addition to this advantage, the arrangement also relieves the employer of much of the cost of initial training, transferring it to either the trainee or to public funding. Some employers continue to start with "green beginners, off the street," either because they prefer workers trained in this way or because they cannot attract beginners with some training. In this latter group are some who said they prefer to underwrite this cost themselves rather than accept the conditions of publicly-funded OJT.

## Hiring Practice

Although the representatives of the schools felt that the distinction between the graduates of college and proprietary programs is a significant one, the employers on the Task Force did not agree. In practice, the employers said, they hire from either program for an existing opening to which a beginner can be assigned, depending on the individual quality of the applicant and "the best that is at that moment available." One employer said that he recruits art students as well as students from the dental technology training, and tests all applicants by having them carve a tooth from a lump of clay, using an enlarged tooth as a model. "Of course," he said, "I would prefer someone with both the manual dexterity and the background training," but he indicated that given a choice he selects the dexterity over the training.

### Its Deficiencies

All the participants attending the meeting agreed that the high school training, as currently provided, rarely produces employable people and should be terminated. One of the trainers said he doubted that the course could even be converted to a useful preparation for subsequent training at either the college or a proprietary school. However, one employer said later in a telephone interview that he has found some useful employees among graduates of the high school course.

A general complaint among the employers on the Task Force was that the kind of student generally recruited by any of the existing forms of training is inadequate for the training being offered. As a result, it was said, these students are also inadequate for taking full advantage of the on-the-job experience that comes with entry-level employment. At the very best, the employers said, the most they can hope for from any existing training is that it will prepare a student to be a trainee in a laboratory, but that this is only sometimes the case with current graduates of training. They attributed this mainly to the low starting wages in the industry which, in turn, they attributed to the economics imposed on dental technology by dentistry.

The proprietary school representatives insisted that the criticism was not fairly directed toward them, and that they have strict entry criteria to exclude inept or unmotivated students. Nevertheless, they did not totally disagree with the complaint that many training graduates lack employability. Their explanation was that the occupation is such that in addition to training it requires a very large component of "talent," and that this is almost impossible to test for in advance of training.

The college representative said that under current admission policy in a public institution it is not possible for the program to impose entry criteria that would assure success in all or even most of the candidates.

## A Consensus

In an effort to reach consensus and a balanced view, the Task Force was asked to discuss these issues more fully. Eventually, that discussion reached the point at which it seemed fairly well agreed that the college program, in addition to teaching dental technology, had the advantage of exposing its students to a more rounded education and to good study habits. Those capable of profiting from this, it was conceded, although unfortunately few in number, are well served if they decide to pursue a career as dental technicians. However, it appears that within this group are some who either go on to additional training for another career associated with dentistry, or in some entirely unrelated field. Since some employers advocated expanding the college curriculum from two to four years in the interest of providing more information and training, they also expressed fear that such a course would not prove useful unless the expanded program can attract better students.

The proprietary schools, it was said, attempt to produce a worker who will be more immediately productive in entry-level employment. The employers agreed that this is attractive to them, emphasizing, however, that unless such workers also happen to be studious and talented it will be difficult for them to develop fully in a dental technology career.

More important than the differences between the two curricula, the employers said, is the interest and motivation that a student brings to whatever training he receives, and his talent for one or more aspects of the work.

## What the Employers Foresee

The Task Force members expect major impact on the manpower situation in this industry in the near future as a result of the influence of two separate, but not entirely unrelated developments.

The first is the growing importance of what is being called "retail" dentistry. This is the advertised dental practices, frequently with advertised prices based on generalized categories of work. The service is usually provided in retail stores or shopping centers, frequently on a walk-in basis, and almost always in a group-practice mode of some sort.

The second influence is the growth of insured coverage, usually through employment-related group plans, for dentistry. Typically, this takes the form of third-party reimbursement to the dentist. A major expansion of consumer demand for dentistry is anticipated from both the hitherto neglected need and the continuing need that flows from aging, deteriorative diseases, accidents, and the like. A proportional increase should then result in the need for prostheses and dental laboratory work.

## Price Competition

Both the "retail" dentistry and the expanded insurance coverage, the laboratory proprietors feel, coupled with the prevailing pattern of establishing government-controlled standards only for dentists and not for dental technicians, bodes ill for consumers, the dental laboratory industry, and the dental technician occupation. They warn that the effect is likely to be a lowering of the standards for technical work and, as a result, of the pay for such work.

The "retail" dentists, they fear, will exert pressure to reduce the cost of technical work so that they can reduce their prices to remain competitive with other "retailers" without reducing their incomes. A reported over-supply of dentists in populous areas has the potential for encouraging this trend.

The insurance companies will, the employers fear, contribute to the lowering of standards by stipulating the maximum prices they will pay for specified kinds of dental work. As in other areas of insured coverage, the insurers will be able to implement such a policy by referring to those practitioners who will offer to work for the lower prices by providing second-rate work. The consumer who wants higher quality than is available at the stipulated maximum will either have to make up the difference, or litigate with the insurance companies in the courts.

Other than the proposal to provide standards of quality through the licensing of laboratories, technicians, or both, which even the Task Force did not accord much chance of accomplishment at this time, the group had little to offer by way of a solution to the anticipated problems.

## What Employers Propose

There was general agreement that, for the most part, the quality of the manpower being supplied by the present variety of training modalities is inadequate and constitutes a serious problem for the industry. There was no strong indication of a quantitative shortage except for the information that some workers are still being recruited "off the street." Since some employers appear to be doing this as a matter of preference, it did not appear that this can be taken too seriously as evidence of a need for additional training facilities.

Among the employers were some who feel that the qualitative inadequacy of the current labor supply can be improved by expanding the existing two-year curriculum to a four-year program with a full baccalaureate degree. Others feel that the same objective could be accomplished by improving the two-year curriculum. One such suggestion was that theoretical and background information should be provided only in the first year, and that the second year should be devoted entirely to the development of technique.

## B.A. Training

The four-year suggestion was not explored extensively by the Task Force because it did not appear to hold much promise in the metropolitan area, although one college in Boston was said to be about to start such a course. The few references to this idea seemed to have two objectives in mind. One was to use the additional training time to provide more instruction aimed at developing proprietors and management personnel. (A number of the employers, and one of the proprietary-school operators, announced in the course of the meeting that they are graduates of the two-year college program.) The other appeared to be linked to hope of achieving licensing, which might be more attractive to a Legislature if it can be based on a baccalaureate degree.

If that is in fact an objective, it leaves unresolved the question of what status would be accorded under licensure to the products of proprietary-school training. None of the employers on the Task Force suggested that this mode of training be dropped in favor of college-level training. In fact, a number of them said emphatically that they need the specialists trained through the proprietary-school method for the higher levels of step worker. Their complaint on this score was that only a few of the proprietary schools were quality institutions, and that even those tend to neglect some of the specialties now in short supply, such as workers in acrylics.

Among those who suggested that the high school training be terminated, the rationale was that it cannot be made adequate in either caliber of student or instructor, and that its graduates cannot now be prevented from offering their services as dental technicians to dentists willing to accept any kind of work so long as it is cheaper.

## Quality of Instruction

As in many other technical fields, these employers pointed out the problem of education and training being unable to compete monetarily for fully skilled technicians to act as instructors. While highly skilled specialists are in short supply, industry is always likely to offer them more than education can. The problem is particularly acute in such a field as dental technology, where creativity in the application of manual skills appears to play a large role in the quality of the work produced. This Task Force had no better solution to offer for this dilemma than any of the other groups that have raised it, other than to again mention the need for dependence on OJT as a training component so that instruction can be obtained from employed practitioners.

## Implications for Training

In combination, the current situation in this segment of employment and its prospects in the near future appear to indicate no need in New York City for the establishment of new training facilities under public auspices. It is unlikely that, given current programmatic constraints, such training could produce job candidates of substantially higher quality than are now being produced by existing facilities, and there does not appear to be any significant quantitative shortage of manpower.

If it is programmatically feasible, attention might be directed to the potentials for providing skills upgrading training in an OJT mode. This would require, however, overcoming the problems of assistance eligibility for people already employed, and the supervision of OJT opportunities to assure that the upgrading potentials are real and that the instructional capability being offered is adequate in both technical and teaching skills.

The problem of better public supervision of quality in proprietary schools offering vocational training is so general, and so well documented, that it requires no explication here.

The issues involved in the upgrading of curriculum and instruction in the two-year college program, or its anticipated four-year offspring, were touched on so lightly in this study that comment in this report would be inappropriate. If this is, in fact, a serious need, it should be explored fully in a study devoted to that question alone.

Similarly, the issue of what to do with the existing public high school course should be explored. That the employers have such negative attitudes toward this course and its products should not be ignored, but what to do about it requires more attention than this study could devote to it. One suggestion, made after the Task Force meeting, was that by dropping any effort to teach technical skills to the high school students beyond what is necessary to test their dexterity and interest, and by concentrating entirely on overview and occupational exposure, the course might be made a useful introduction to the potentials in further training.

# MANUFACTURING BY SMALL FIRMS

Pre-employment training for manufacturing employment in New York City has come increasingly under discussion as the impact is felt of some four decades in which manufacturing has declined as a percentage of the City's economic activity, and employment in manufacturing with it. Such questions as whether training for this employment is still justified and, if so, in which skills, for which occupations, and for which employers, have been difficult to answer conclusively entirely on the basis of standard data. Such questions appeared, therefore, to be worth considering by means of the LMIN method to see whether the data thus produced would be helpful.

Before deciding how to proceed, LMIN began by overviewing the statistics describing the situation in manufacturing in the City. An understanding of this data is also necessary for perspective on the outcomes of the LMIN study.

## Manufacturing in New York City

Manufacturing has become the weakest segment in the City's labor market. Of New York's not-quite three million workers, a little less than half a million, or about one sixth, were in manufacturing in 1980. In 1950 the manufacturing work force had been a little more than double what it was to become thirty years later, and accounted for a larger share of the total.

In relation to all these figures it has to be kept in mind that they include all persons receiving wages or salary from manufacturing firms. In New York City, only about 60 percent of those listed in manufacturing, or some 300,000 workers, are actually production workers. The rest are clerical, managerial, technical, sales, and service workers. Their percentage is a little higher in the City than in other areas because of a higher proportion of entirely administrative offices that are counted as in manufacturing. Although the difference with the rest of New York State is only about 1 percent, this is an average, and the difference between smaller areas can be much greater.

## A Manufacturing Center

Nevertheless, New York City remains one of the very largest manufacturing centers in the nation. In 1980, only Los Angeles, with 920,000 workers in this category, and Chicago, with 800,000, were substantially larger. Detroit's manufacturing work force was about the same size as New York's. The entire state of Connecticut had fewer workers in manufacturing than did the City of New York. Rochester had about 150,000, Buffalo about 130,000, and Syracuse about 60,000.

Another way of looking at the City's manufacturing is by the nature of what is produced. Of the City's half-million manufacturing workers, almost three out of four are connected with the production of non-durable goods. In this non-durable segment, the preponderance of firms is in apparel, printing and publishing, textiles, and food. In the production of durable goods the bulk of the City's activity is in fabricated metals, non-electric machinery, and electric and electronic devices. The third-largest manufacturing group in the City, characteristically, is in the catch-all category "miscellaneous."

Still another way of dividing the manufacturing employment is by the skills content of the work. In the City, a tenth of production workers are skilled. In the rest of the state that category is almost twice as large as a percentage of the total. Semi-skilled workers in the City account for 35 percent of the total, 30 percent elsewhere.

Finally, manufacturing can be considered according to the size of the employing firm. More than half the firms in the City hire no more than 19 workers, and many employ only three or four. However, most workers in manufacturing in New York are employed by the few firms with work forces near or over 100.

These larger firms' employment policies and practices are usually better represented, and better understood, because they are studied more frequently and more intensively. As a result, there is considerable speculation, but not much dependable data, about hiring requirements and practices in the smaller firms. As a result of this, LMIN's contract for 1980-81 included a provision for a study of employment and training needs in the City's smaller manufacturing establishments.

## Designing the Study

Past experience indicated that it would be inadvisable for LMIN to attempt to assemble a Task Force among employers in smaller-size firms. They are usually too busy, or afraid that they may be, to arrange to leave their businesses for as much as half a day. Another consideration was that except for their being in manufacturing, the employers to be contacted would be from quite unrelated activities and, therefore, not a homogeneous group in a Task Force. The conclusion drawn from this was that the study should collect its data by having interviewers visit the employers at their places of business.

### Help from PDC

Through a fortunate coincidence LMIN happened to make contact at the time of this planning with the Public Development Corporation of the City. PDC had been providing as a service to manufacturing businesses an energy audit to help them reduce their expenses in this budget category. The PDC had prepared for its use in this project a list of firms in the City's "industrial parks," including in addition to the firm's name, address, and phone number, its principal officer, type of manufacturing, and number of employees. PDC agreed to let LMIN use this list for its study. From the list LMIN selected those firms with up to 50 employees in Queens, the Bronx, and Brooklyn.

At about the same time LMIN became aware that another research organization had recently completed a study of employment in electrical and electronic manufacturing. This group was contacted and it expressed concern that its respondents might resent being approached again so soon.

Consequently, LMIN dropped from its list those firms that had been interviewed by the previous study.

The result was a list of 184 firms in the three boroughs.

## Study Method Plan

Although LMIN was still committed to an open-ended interview technique and essentially verbal data, the number of potential respondents in this study seemed to indicate a need for a somewhat more statistical approach. A questionnaire was designed that could be coded and processed numerically, in addition to its being able to provide the qualitative material to which LMIN is more accustomed.

Another assumption was that the study would require more interviewers than LMIN had on its regular staff, and provision had been included in the budget for hiring part-time interviewers. The planning also included some initial consideration of what would be required to train such interviewers in how to gather both concise and expanded answers to the items in the questionnaire. As a first step, the two senior staff members tested and revised the questionnaire form in trial interviews with firms a little larger than those initially selected from the PDC list. (A copy of the final form of the questionnaire is appended to this report.)

## The Questionnaire

The form of the questionnaire was evolved from the experience with it for the two intended purposes; as a survey instrument from which quantifiable data could be determined and compared, and as an interview schedule within which expanded answers could be obtained in situations that called for such answers. Sometimes such answers would be in direct response to the question asked, but where some complexity made the expanded answer necessary. In other cases the expansion would be in terms of new questions suggested by the initial answers and evoked by previous experience with issues in occupational training.

The questions themselves were devised to produce codable responses on twelve subjects, as follows:

Borough - Queens, the Bronx, or Brooklyn.

Industry - As defined at the two-number level by the Standard Industrial Classification Code.

Size - Of the firm's work force, in six divisions: 1-9, 10-19, 20-29, 30-39, 40-49, 50 and over.

Skill - The employer's perception, describing his work force as: Mostly Unskilled, Mostly Semi-skilled, Mostly Skilled.

Turnover - Defined as need to replace workers fired or who left, as an annual percentage of the work force, in three steps: 0-33%, 34-66%, 67-100%.

Wages - As reported by the employer, compared to similar local firms or to the industry average, in three grades: Low, Average, High.

Education - As an entry-level hiring requirement, in four steps: None, Basic English and/or Math, High School Graduate Level English and/or Math, Higher than High School Graduate.

Training - Pre-employment, as an entry-level hiring requirement, in four steps: None, High School (Voc. Ed. or Occupational), Two-year College, Four-year College.

Experience- As a hiring requirement, in five steps: None, Unrelated Work for 1-2 years, Related Work 1-2 years, Related Work over 2 years, Identical Work Experience.

Labor Supply - Employer's experience recruiting new hires, in four categories: No Trouble Employing Workers, Some Difficulty Caused by Need to Select Among Many Applicants, Great Difficulty Caused by Unqualified or Insufficient Applicants, Unfilled Jobs For Lack of Qualified Applicants.

Source of Dissatisfaction - Employer's perception, if not satisfied with hired workers, of what causes the dissatisfaction, in three categories: Attitude and Work Behavior, Insufficient Education, Insufficient Technical Skills.

Training Need - Employer's view of whether publicly-provided pre-employment training would contribute to solving or easing employment problems, rated by content of possible training, in five grades: None, training for Improving Attitude and Job Behavior, Generic Skills in Customer Contact or Technical Literacy, Craft Skill Training at Voc. Ed. or Equivalent Level, Skill Training at Two-Year College or Apprentice Level.

When the situation warranted the employers were asked to differentiate their responses to the above questions by whether they were referring to production or to clerical workers, but only if the clerical workers were actually housed in the manufacturing plant. A number of the plants visited were subsidiaries of companies whose principal clerical functions were performed at other locations. In many cases the number of on-site clerical workers was so small, or the functions performed so unskilled, that they did not justify attention in relation to training.

## The Experience

Before the employing and training of part-time interviewers was begun it was decided to test the final questionnaire using regular members of the project staff. Employers in Long Island City, as selected from the PDC list, were telephoned to be asked for an appointment for an on-site interview. The explanation, in the briefest possible terms, included the information that a City-funded research project, in the hope of providing assistance to employers with employment problems, wanted about a half-hour of their time to discuss their employment experience and whether pre-employment training could be of any help.

For the first time in its various approaches to employers in a variety of industries in New York City, LMIN encountered in this study a large amount of outright hostility and rejection. Although there were some employers who agreed to be visited and interviewed, and others who declined because they were about to go out of business, most of the others either fended off the request with some pretense of civility or were overtly impolite or in some other way manifestly disagreeable in their rejection.

## A New Experience

In previous studies many of LMIN's contacts had been with representatives of larger companies, but not all. However, when employers in smaller firms were interviewed or invited to a Task Force, it was because through recommendation or some other means of selection they had been chosen as likely to be sympathetic to the objectives of a study even if they did not think they had a need for training. The approach in this study, solely on the basis of the size and category of the business, was for this project a new experience and a revealing one.

Another unexpected development that emerged in the course of these contacts was that some of the employers agreed to be interviewed over the telephone, but not to be visited. Although the stated reason was often that they did not have the time for an on-site interview, a number of them then proceeded to talk longer on the telephone than an on-site interview would probably have taken. Others, however, would answer only a few questions, or respond only in monosyllables, and then cut the interview short. The result in such cases was that some questions went not only unanswered, but unasked. In other cases the first responses made it evident to the interviewer that the subsequent questions would be irrelevant, as in the case of the owner-operated shop, and so the remaining questions were not asked for those reasons.

As it became increasingly evident that the number of respondents would be substantially smaller than the list, the plan to hire additional interviewers was abandoned. The telephone and the on-site interviews were all conducted by the regular LMIN staff members.

## The Interviews

Of the 184 firms selected from the PDC list, the existence of nine could not be confirmed in the most current telephone directory and they were dropped. An additional 16 were either reported no longer receiving service by the telephone company, or could not be reached in repeated attempts. Seven of those reached said their firm was either going out of business or leaving the City, and could not be persuaded to be interviewed even though they might have provided relevant information. This left a total of 152 potential interviews.

Of the firms reached, 23 agreed to be interviewed on the telephone. On-site interviews were participated in by 18 firms. The total of interviews with small firms was, thus, 41.

As an outgrowth of this experience the decision was reached to contact some larger manufacturing firms to see whether substantial differences would become evident. After calls that resulted in six on-site or telephone interviews in this group, and about an equal percentage of rejections as in the small-firm group, this approach was also terminated. That was decided because the rejection rate appeared about the same, for about the same reasons, and because the content of the interviews revealed no differences that were significant, or that were not entirely predictable.

## The Data

Although the number and quality of the responses were disappointing, the 47 interviews (41 small firms, 6 larger) were coded as initially planned. Since the entire group would not in any event have been a statistically valid sample, and were even less representative under the circumstances, it did not seem worthwhile to subject the data to elaborate analysis. The simplest kind of addition and comparison, however, did yield some interesting results that have to be classed more as possibilities than as conclusions. Nevertheless, since many of these results were in conformity with other data descriptive of the City's employment situation, and none contradicted such established descriptions, the credibility of novel findings appeared to be supported.

Among the completed interviews were a few in which the project's experienced interviewers found some new and interesting information of a qualitative nature. Although the form of the study did not allow for the sort of verification of such leads as LMIN might have otherwise attempted, they remain interesting in their own right. They may also be potentially fruitful areas for further investigation, or for interpretation of findings in other studies.

## Quantitative Findings

The twelve coded categories in the 47 interviews yielded the following results:

| Borough | |
|---|---|
| Queens | 29 |
| Bronx | 13 |
| Brooklyn | 5 |

| Industry (SIC) | |
|---|---|
| Fabricated Metal | 21 |
| Paper | 5 |
| Printing | 5 |
| Food | 4 |
| Misc. Mfg. | 3 |
| Apparel | 2 |
| Chemicals | 2 |
| Furniture | 1 |
| Lumber & Wood | 1 |
| Machinery | 1 |
| Electrical | 1 |
| Construction | 1 |

| Size of Work Force | |
|---|---|
| 1 - 9: | 11 |
| 10 - 19: | 10 |
| 20 - 29: | 12 |
| 30 - 39: | 3 |
| 40 - 49: | 5 |
| 50+ : | 6 |

### Experience Requirement

| | |
|---|---|
| None | 24 |
| 1-2 yrs. unrelated | 2 |
| 1-2 yrs. related | 15 |
| Over 2 yrs. related | 5 |
| Identical | 0 |

### Labor Supply

| | |
|---|---|
| No Difficulty | 23 |
| Need to Select | 18 |
| Great Difficulty | 3 |
| Unfilled Jobs | 1 |

### Skill

| | |
|---|---|
| Mostly Unskilled | 13 |
| Mostly Semi-skilled | 17 |
| Mostly Skilled | 17 |

### Turnover

| | |
|---|---|
| Up to 33% | 41 |
| 34-66% | 6 |
| 67-100% | 0 |

### Wages

| | |
|---|---|
| Low: | 8 |
| Average: | 32 |
| High: | 7 |

### Education Requirement

| | |
|---|---|
| None | 37 |
| Elementary Engl. & Math. | 3 |
| H.S. Graduate Level | 6 |
| More Than High School | 1 |

### Training Requirement

| | |
|---|---|
| None | 31 |
| Voc. Ed. Level | 10 |
| Jr. College Level | 6 |
| College Level | 0 |

### Source of Employer Dissatisfaction With Employees

| | |
|---|---|
| Attitude and Behavior | 24 |
| Insufficient Education | 4 |
| Insufficient Skill | 3 |

### Need For Training

| | |
|---|---|
| None | 21 |
| Attitude and Behavior | 8 |
| Customer Contact or Technological Literacy | 3 |
| Voc. Ed. or Equivalent | 13 |

## General Findings

Although they may not be conclusive, these figures do indicate some broad generalities about small manufacturing firms in the City of New York that ought to be taken into account in any consideration involving training for employment by such firms.

The first is that in economic conditions like those of 1981, by far the largest number of employers report no significant difficulty in finding the workers they need to keep their businesses going. Nor are their requirements very high. If both unskilled and semi-skilled labor are regarded as essentially not needing training, then only about a third of employers need mostly trained workers, and they may represent an even smaller percentage of the production work force. Within that group are those who rely only on work experience, and reject other training. Confirmation of this appears to come from the high percentage of employers who felt they could get no help at all from training, or who opted for training that rarely exists - training directed to attitudes and behavior. Another supporting indication came from the very small number who reported any significant turnover in their labor force.

Amplification of the same over-all trend is found in some of the other findings. The large number of employers who said they had no need for workers with education, with training, or even with experience, is one demonstration of the basically unskilled character of the City's manufacturing work force. Also, the predominantly low and average wages, although regarded by some as advantageous for the City, can also be interpreted as indicating that most employers feel no need to retain or attract workers by offering a money incentive.

The answers summarized by the "Need for Training" table also support this view of the general picture, but require some additional explanation if the full flavor of the responses is to be appreciated. For instance, even those eight respondents who thought they could be helped by a work force that had been given attitudinal and behavioral training to improve their performance included many who were frankly skeptical that such a training effort could succeed. Similarly, among those who thought their firm could be aided by workers trained in, or by an equivalent of Vocational Education, there were a number who had reservations about the practicality. A fairly typical observation was: "Sure, I might very well be able to use new workers with that background, but to keep the peace in the plant I let the foreman do all the hiring, and he has no confidence at all in anything that comes out of a school."

## Other Considerations

It should not be overlooked, however, that even to the extent that this study's findings can be accepted as valid for manufacturing employment in the City, they do not cover all the circumstances in which technical and craft training are needed in the work force. Many of the same skills are in demand in the service and construction occupations, both of which categories are substantial in the City, and both of which were not included in this study. Also, by using the PDC list that excluded Manhattan, the firms contacted were uncharacteristically mainly in durable-goods manufacturing.

Neither should it be overlooked that within these findings remain indications that some skilled workers will continue to be needed by some manufacturers in the City. Also, that a lack of such workers might persuade some manufacturers not to locate in New York, or others to leave. To the extent that training is justified by job potential within manufacturing, trainers should take pains to maintain awareness, through constant contact with operating business, that needed skills change constantly in response to shifting patterns in manufacturing. Sometimes this shifting results in a change in the definition of a traditional skill, or it produces need for new skills or new combinations of skills.

Some such patterns emerged in this study, largely from the qualitative content of the interviews. They carried with them implications that may be applicable to the modification of training curricula, or the development of new curricula.

## Implications for Training

By far the predominant need expressed by the employers interviewed was for employees whose attitudes and behavior are compatible with the requirements of the work place. This complaint was even more general than is indicated by the 24 of 31 respondents who said that employee absenteeism, lateness, and inattention is their principal labor force problem. Some of the others also mentioned it, but not as their principal problem.

The need was described in many ways by different respondents, but was perhaps summed up best by the employer who said: "The worker has to have some compassion for the job."

Whether this is in fact a reasonable expectation within the current form of social and economic organization is an issue with implications that go beyond the capacities of this project. If, however, the objective of occupational training is to be employability, then it might be wise for occupational trainers to consider how they may apply themselves and their institutions to this issue. It was a strong impression after these interviews that many employers are now considering behavior and attitude as the most important consideration in a hiring decision.

### "World of Work"

The closest approach for some decades has been to provide what has come to be known as "World of Work" training. Ordinarily, it consists, either in individual or group format, of some job counseling, and instruction in how to dress, speak, and otherwise comport oneself in a job interview to increase the chance of being hired. Although some of these programs, along with some skills-training instruction, have included some attention to on-the-job behavior, it appears from what the employers are saying that this has not been enough.

Nor can it be argued any longer that the production work force consists mainly of people with no schooling or training. Although the study did not address this question directly, it was clear on observation during visits to plants that many workers were probably native New Yorkers who had some exposure to the schools.

## Keeping the Job

The issue of behavior and attitude cannot be overlooked in preparation for employment because it can no longer be assumed, as "World of Work" training does, that getting a job is the only hurdle to be overcome. A number of employers said: "We give new workers a chance, and we warn them once, but after that if they are absent, or very late, or act up - they are out!"

Clearly, knowing how to keep a job has become as important as knowing how to get one. Many employers expressed doubt that this is a trainable quality, but it was probably their equivalent thirty years earlier who doubted that training could prepare applicants effectively for how to get a job. If there is validity in the job-finding training, as there appears to be, then it should be expandable in some fashion to job-keeping training, as well.

Points that came up in the interviews that employers would like to feel more secure about when they hire a new worker, and that they would like training to attend to in addition to such obvious behaviors as absenteeism, lateness, violence, and theft, included:

- More interest in contributing to what the employing company does, and in personal development and job advancement, than is indicated in the employment interview by: "I just want a job - any job."
- Some confidence that the applicant does not intend to stay on the job only long enough to qualify for unemployment insurance.
- Some confidence that initial productivity and interest will not decline sharply or terminate as soon as the applicant completes the trial period and becomes a union member.

## Vocational Education Level

Most of the manufacturing employers who said their business could benefit from having available to it graduates of pre-employment training, also felt that training roughly equivalent to the vocational education level will suit their needs best. This was by no means an unqualified endorsement of existing vocational education, or even an adherence to the conventional format in which vocational education is provided. In fact, there were all the usual criticisms of current practice in such education, but no more or less then in any other group of employers.

What the survey sought was only to ascertain whether this group of employers, at this point, sees some radically different form of pre-employment training as better suited to their training needs. The finding was that those who have a need for training have no very different form of training in mind.

## Desired Changes

They would, however, like the training to be more generic, more current in terms of prevailing industry practice, and provided in a setting that either simulates better or is actually in a real production environment. Also, they were often skeptical, if not outright critical, of the quality of instructors, mainly because they feel that most instructors are too far removed from current experience. But these are all criticisms dealt with elsewhere in LMIN reports, and in other assessments of vocational education. They need not be reiterated here.

A few exceptions arose in the course of the interviews in the form of suggestions for new kinds of training. Although some were expressed in some form by as many as three employers in unrelated businesses and industries, others had no more support than that of one employer. Hence, they are more suggestions for further study than reliable findings, but may be none the less interesting.

## Business Training for Mechanics

One was a suggestion by the proprietor of a small machine shop in which he is also the highest-skilled mechanic. His business, he said, cannot justify a full-time clerical worker so the owner finds himself doing the office work and answering the telephone. He also supervises the shop. He finds this an inefficient arrangement. The shop hires two helpers who are actually machinist trainees, and who often come with pre-employment training in or like vocational education.

This employer suggested that for shops like his, candidates for employment would be much more attractive if, in addition to their mechanical training, they also had been given an exposure to typical office procedure in a small manufacturing firm. The employer could then assign these helpers, when appropriate, to routine office chores. Also, if someone is to be interrupted from work by the telephone, it can be the least-costly, least productive worker in the plant, rather than the top end of the work force.

Recalling previous Task Forces and studies, LMIN could see that this suggestion fits in with observations by employers in a number of service-oriented mechanical occupations, such as auto or appliance repair. It might be interesting to determine through further study how widespread such an employer interest really is, in what size of work force it exists, and what other considerations affect it.

One of the attractions of the suggestion would be that if it should be implemented, it would not require the development of a new curriculum. The required teaching materials and expertise already exist in the school system, and possibly even in the same school, in regular business courses. It might only require some new articulation between existing offerings to provide this additional training.

## Production for Clericals

In effect another face of the same suggestion also surfaced in the course of this study, but in relation to clerical workers in manufacturing plants. In this case the employer's observation was that many new clerical workers in the manufacturing plant have difficulty relating an office procedure they have learned to the actual functions in the manufacturing process. The suggestion was that in addition to their clerical skills training, students should be given some broad introduction to manufacturing processes of different kinds, and to how clerical systems relate to tangible things being produced in a factory.

Again, this is a suggestion that would require considerable validation before it could be regarded as worthy of introducing in a school. Also, it would require the development of a new curriculum. Its ability to attract LMIN's attention was probably because it conforms to a trend that has been observable in a number of occupations in which it is reported that the need is growing for multi-skilled workers who understand the systems in which they are employed.

## Other Possible New Curricula

Two other suggestions for essentially new curricula came out of the interviews. However, these would be more in keeping with a skills-upgrading approach than they are applicable to pre-employment training in its conventional mode.

The first came from employers in three unrelated industries. In all three cases what the employers said they really found it difficult to locate in the labor market is "set-up workers." The reference is to the workers who make the precision arrangements and adjustments on a production machine so that, under the care of a lower-skilled operator, it can be used to manufacture a great many identical products.

Although it could be argued that the relationship of these three examples is only semantic, because they carry the same title, it is more likely that they do have more relationship than that. The knowledge and skill needed by set-up workers varies with each industry, and each production machine, but they have a common base. This is machinist skills. In addition to precision measuring, the set-up worker is also called on to make cutting or forming tools that fit into the machine, to make jigs and fixtures that hold the work, and may also have to repair or make replacement parts for the machine. However, the different materials worked on, and the different machining processes, make it necessary for the set-up worker to have special information and experience for each industry and process. For example, the employers who mentioned this need in this study were one in a stamping shop that uses progressive dies to form steel parts for doors, one in a shop that makes highly specialized coil springs, and one in a shop that makes paper envelopes.

In each case, however, each individual employer was confident that in the City there are at least a dozen other employers with an identical need. As evidence of this, they pointed out that for this occupation these employers are all now "pirating" workers from each other. They also said that there used to be more shops in the City in their industry, but that they have left, in part because of an inability to find appropriate set-up workers.

### Barriers to Implementation

These employers were unanimous in doubting that public programs would be able to accomodate this need. They cited what they saw as a number of obstacles.

First, it is an open question whether the skills needed by any one employer, using particular machines and materials, can be provided in general-enough training to justify a class and a curriculum. No one industry in the City could provide enough jobs to validate training for itself alone. None of these employers knew of the existence of general training anywhere at this time, although all conceded that in theory it is possible.

### Skills Upgrading

Second, this is clearly training for already experienced workers, as a means of upgrading their skills. Some candidates might be found among machine operators, but the more likely candidates would be machinists, who are already in short supply. To date, no good publicly-funded mechanism for skills upgrading has been developed, and there does not appear to be any substantial interest in instituting such training.

Another obstacle, the employers thought, is that most of their employees seem to lack the ambition to take such training, particularly if it is offered after working hours and unpaid. One suggestion was that the training would have to be in lieu of work, at the regular rate of pay. In that case, there is clearly the question of who will do the paying. The employers felt that it would be unrealistic to expect any small business to underwrite the cost of such training. Pirating from each other, they pointed out, is essentially much cheaper.

As noted earlier, the employers doubted that their foremen would be willing to accept such workers as the equivalent of workers with actual, identical work experience. One employer also mentioned, and the union confirmed, that his collective bargaining agreement would make it impractical for him to attempt to employ such workers because it contains no provision for a set-up helper, learner, or trainee. Since the whole job could not possibly be turned over to someone fresh out of a training program, this becomes a barrier.

Despite these formidable obstacles, the evidence from this and other studies indicates that if it could be established, such training would be a useful service to employers, workers, and the City. There is a pressing need for such workers. Obviously, a great deal more study is required of the need, and of how the training could be structured and funded.

## Production Expediters

The other suggestion, which might be a little easier to accomplish because the skills to be trained are clearly more general and less industry-specific, relates to business developments that appear to be taking place now in the City. The need is for the upgrading of experienced production workers to enable them to assume the function of expediters, or project supervisors, within a manufacturing plant. This is a function and an occupation that exists and is fairly well regularized in large factories, where it is a professional or managerial-level job. The need as determined by this study is for a variant of this occupation as required by much smaller plants. Again, the suggestion came from totally unrelated industries.

It appears that manufacturing is experiencing a change in which middle-size plants (in the City, plants of 20 to 50 workers) are either being forced out of business, required to become smaller and more specialized, or find it necessary to consolidate with others into larger-size, more cost-effective units. It is in these larger firms, unaccustomed to functioning at that size level, that the need for this new type of worker is being felt. One employer described it as: "I need to be able to take one or more of my experienced production workers, who also have the temperament for this, and train them so that I can turn over to them a whole job and say, 'see that it comes in according to specifications, on time, within cost, is shipped or warehoused properly, and whatever else I haven't the time to attend to personally.'" In other industries, the description of the needs was essentially the same.

The employers voiced the standard skepticism of the willingness of production workers to accept such training, of the willingness of supervisors to accept such workers, and of the ability of schools or training programs to supply adequate curriculum or instruction. However, these employers saw little or no possibility of enticing such workers away from other employers, to some extent because the workers do not exist, and to some because they felt they must start with their own production workers. But they did feel that the skills involved are not industry-specific or plant-specific, and that a training class could be made up easily of workers from different plants and industries. Also, they felt that once trained, such workers would be able to transport their skills to other locations.

Again, the potential requires more research than this study could provide before a course could even be planned.

## Customer Contact and Technological Literacy

Only a very few employers interviewed indicated any interest in customer-contact skills for employment in a manufacturing plant. If they did, it was usually in relation to clerical or sales jobs. Even then, it was a concept that usually had to be explained. Similarly, technological literacy is not a concept with which these employers are familiar. Even after it was explained, very few thought it had any relevance to the kinds of employment they offer.

## Higher Education

The one firm that said it required a college credential was among the six with larger-size work forces, and the requirement was for entry clerical workers. This employer said he had no difficulty finding job applicants with this credential, and had to select among them for other hiring criteria.

The one employer who said he could use workers trained at a junior-college or equivalent level was looking for highly-skilled, highly specialized custom furniture makers. This was the same firm that reported an actually unfilled job. In fact, what this employer preferred was the re-establishment of full-scale apprentice training as it had been in Europe in a previous era. There appeared little likelihood that his preference could be filled by locally-provided training.

## Conclusions

The possibility that the LMIN method would prove much more fruitful for collecting data about small manufacturing firms than more conventional statistical approaches was not substantiated by this experience. The resistance in this group of employers to providing data, even on their own behalf, is a characteristic that will have to be overcome in some fashion if truly conclusive qualitative information in this category is to be compiled.

Nevertheless, there does not appear to be any basis for concluding from either the available evidence, or the lack of it, that there is any hopeful promise of much employment opportunity that can be generated by training, particularly in the pre-employment mode.

Manufacturing activity in the City is more likely to continue declining, and employment with it. Training for the employment that remains is in all probability going to be a minimal activity since most of the jobs are not likely to be skilled ones, and among the skilled jobs will be many too specific, or requiring too much work experience, to fit existing training models. One of the predictable reports from the larger plants was that, when absolutely necessary, they find they have the capacity to do their own training.

## Ability to Change

The indications are that training planners should try to keep the City's training and work force consonant with job opportunity by making themselves sensitive to indications of new manpower needs. The fact that manufacturing is declining in the City should not obscure the equally important fact that it is also changing. Training should keep pace with these changes.

Essentially, training can do this by constantly upgrading existing programs, by dropping obsolete ones, and by starting new ones. Another need is to re-orient planning so that it does not concentrate on large-scale programs, since there will not be any large manpower needs in any one category in manufacturing. Small programs, aimed at small clusters of jobs, or at categories of jobs that have related characteristics, are the more likely possibility.

Skills upgrading training may often be beyond the capacity of an individual employer in a small-size firm. This need should be accorded at least as much attention as pre-employment training, even though radical changes in existing training institutions and support programs may be involved.

LABOR MARKET INFORMATION NETWORK
TWO WORLD TRADE CENTER - 6849
New York, New York 10047
488-6787-8-9

It has been said that public programs which prepare people for work ignore the needs of smaller firms, particularly those in manufacturing, for both production and clerical workers. One reason given is that it has been easier to obtain information from the larger firms about what they need because such firms can afford to have someone take the time to give that information.

Labor Market Information Network is a non-profit, city-funded research program devoted exclusively to gathering information that can lead to improving existing employment-preparation programs, or starting new ones. LMIN has been asked to make a special effort to identify manpower needs in the small business and the training that might help those needs. The following questions are devoted exclusively to that end. You can be sure that any information you provide will be treated as confidential and will be used only to determine frequent or average responses.

Company Phone

Address

Person Interviewed Title

What Does This Company Produce?

What Processes Does It Use?

Employees in Production In Clerical Total in Co.

Is All Clerical Work Done At This Location? Explain:

## PRODUCTION & CLERICAL EMPLOYMENT

| PRINCIPAL WORK ACTIVITIES (Job Titles) | Number Now Employed | How Many Male | Unskilled Semi-Skilled Skilled |
|---|---|---|---|

Which of the above are jobs for which you hire beginners?

For which jobs is turnover a problem? What is the yearly rate for all jobs; for troublesome jobs?

Is yours a low, average, or high-paying company? Are there particular jobs outside this pattern?

## HIRING REQUIREMENTS

Which jobs call for a number of years of education, or a degree?

Which jobs call for vocational education or technical training?

For which jobs could experience substitute for education or training?

For which jobs can you hire only workers with experience?

## HIRING EXPERIENCE

For which jobs do you have to screen a great many applicants to find an acceptable employee?

For which jobs are there not enough applicants for making a proper employment choice?

Do you have a job (jobs) for which you cannot find anyone to employ?

If you hire workers with whom you are not fully satisfied, what do they lack in education, skills, attitudes, behavior, etc., and for which jobs?

## TRAINING

For which of your jobs would training before employment be of help?

For which of your jobs would training after employment be of help?

Is there a best way to provide any of the above training?
Apprenticeship, Internship, On-the-Job, Co-Op (with school), Vocational Education, Technical Institute, etc.:

# ENERGY-RELATED OCCUPATIONS

The recent oil crisis prompted many Americans to address the issues raised by a shortage of conventional forms of energy. This new awareness led to interest in the conservation of currently available resources and in the development of alternative energy sources. The combination of the two strategies has come to be known simply as "energy," and is popularly thought to be a "growth industry" that offers significant job as well as financial opportunities. As a result of this view LMIN undertook to examine energy-related occupations and employment opportunities in New York City to determine whether pre-employment training is needed and worth providing.

Even preliminary study disclosed that despite the public conception, the number of jobs currently available in energy-related activities is small and the sources of this employment in a number of cases is not inherently connected. Therefore, LMIN decided not to convene a Task Force, but instead to interview individually representatives of utility companies, foundations interested in energy, industry associations, private businesses, City agencies, and others with expertise.

## Energy Sources

Energy-related employment within a large city falls generally into three categories. One is such central providers of energy as utilities that supply electricity, gas, and steam to individual buildings. Another is in the buildings themselves, whether large commercial structures or private homes. Still another are the suppliers of materials or services to the other two. Within these categories the nature of energy-related employment depends on whether the energy source is renewable or non-renewable, conventional or alternative and, beyond that, whether the activity involves generating the energy or conserving it after it has been generated. Within all these categories there are a host of variants.

Non-renewable energy sources are coal, oil, natural gas, fissionable and fusionable materials, and geothermal energy from the earth's hot core. Each of these can be available in a variety of forms. For instance, in addition to its usual forms, energy from coal can become available through liquidification and gassification. Similarly, petroleum can be extracted from oil shale and from tar sands. Although these variants can require significantly different employment preparation and skills, they are of little or no consequence in New York City.

In the same vein, renewable energy sources include hydropower, biomass (green plants grown for fuel), wood, wind, tides and waves, temperature differential systems, active and passive solar heating and cooling systems (with or without moving parts), solar thermal electric conversion, solar voltaic cells, and fuel cells that derive electricity from combining hydrogen and oxygen to form water. Only a few of these have even a possible relationship to employment in the City.

Finally, even conservation can take a variety of forms, ranging from saving home heat through insulation and weather-stripping, to designing and installing more efficient motors, or heating and cooling devices. Currently, there is more employment-related activity in the City in conservation than in conventional or alternative sources of energy.

However, since many proposals for new sources of energy are still in a theoretical or drawing-board stage of development, the above estimates of job-relatedness could have to be changed if technological breakthroughs occur. Other factors that could induce change involve the hazardous byproducts of some systems. If disposal problems arise or are solved, the viability of some sources of energy could change, making their choice either more or less attractive.

## Energy Choices and Job Implications

The degree of capital or labor intensiveness varies with each choice of an energy source or conservation technique. Jobs may be created directly, indirectly through supporting industries which supply materials and services to the energy industry, or through a multiplier or "ripple" effect by which changes in energy consumption influence general economic activity. Alternatively, workers may lose their jobs when a new energy technology reduces the need for labor.

In the absence of much direct experience, estimates of the impact of various energy choices on numbers of jobs gained or lost are based on projection techniques and some appear to be influenced by attitudes toward the particular form of energy being studied.

An example of the variation that can occur is provided by a comparison of the United States Department of Energy report (Creating Jobs Through Energy Policy, July 1979) and a study by the Council on Economic Priorities ("Jobs and Energy," CEP Newsletter, Nov. 14, 1979). The Department of Energy concluded that "Conservation measures (i.e. insulation, weatherstripping, storm windows, etc.)... create fewer direct jobs than nuclear and other conventional powerplants." The CEP study concluded that "Economics makes energy conservation far more attractive than nuclear power generation. Costs would be lower, more jobs would be created."

## Energy Projects in the City

New York City has had a variety of energy projects in the areas of conservation, solar energy, and methane gas recovery. In some of these projects CETA eligibles were trained in weatherization techniques (caulking, weather stripping, insulation, window and door installation and repair, storm door and window installation and repair, roof repair), boiler burner operation, maintenance and repair, and energy auditing (identification and calculation of heat loss in a dwelling and determination of cost-effective solutions). Some of the trainees subsequently found employment as heating system servicemen, boiler maintenance workers, or in building maintenance. Others were hired by contractors as part of non-union construction crews. But none of the trainees have found positions as energy auditors and many are still unemployed. The utilities either hire independent contractors who supply DOE-certified energy auditors or fill these positions through in-house promotion and training. Often engineers perform the energy audits. According to one source, "trained professional energy auditors hired by the utilities are not doing energy audits, but weatherization studies."

The construction of a methane gas recovery plant by one of the utilities is reported to have resulted in the addition of only one or two new jobs, and an additional plant "would add one or two more jobs." These would be jobs for "operating people, that is, people to monitor the equipment" and would require no special training. Nor is this a full time job because the methane gas plant operates only during the winter months and, as a result, personnel are rotated among various facilities.

## Job Prospects

Although the more optimistic energy predictions forsee the creation of "new jobs at all levels - manufacturing, hardware, and assembling," most of LMIN's sources were far less optimistic about expanding employment possibilities. They projected some expansion at the higher skill levels, especially in the area of supplying research data about the means of implementation and cost comparison studies. Opportunities exist for those with engineering skills who are able to design ways to measure heat loss and in the design of installations. Even so, these jobs are few in number. "The only other jobs are marginal and in areas such as facilities management," one source said. Manufacturing service industries for the new technology will "require somewhat different skills from existing jobs," but again the number of such jobs is not sizable.

The installation of solar panels, wind systems and electric thermostats, as well as weatherization measures and retrofitting existing buildings for more efficient systems, require conventional construction skills and can be done by electricians, plumbers, and carpenters. As one respondent said, "Putting up a wind system is not so different from putting up a tower."

Installation of insulating materials as part of a weatherization program may create some additional jobs. General home building knowledge is required for installation - "knowing enough not to put insulation on top of a heat source because it will become a fire hazard." Skilled remodelers can do energy-related construction such as the installation of solar panels, as well. However, as a result of the decrease in new home construction in New York City, construction workers, with minimal on-the-job training, can be employed as installers and any new jobs which may be created are likely to be filled by the current supply of available labor.

Except for very large-scale projects in new construction, however, it is unlikely that traditional jurisdictions in construction work will be carried over into the installation of alternate-source systems. In retrofit and in single-home construction, such installation by energy-specialized firms usually requires workers whose skills include carpentry, plumbing, electricity, painting, and even some mason skills, as well as some newer techniques developed for such installations. This need, which also is occurring in some other of the newer job-related situations, illustrates why it is unproductive for vocational education to maintain its strict separation of these crafts.

Jobs may develop in the production of insulation materials because of the "current shortage in the ability to purchase insulation - but manufacturing plants are not likely to be in New York City.'' They are more likely to be expansions of existing facilities, elsewhere, it was thought.

The use of energy management computer systems seems to be increasing. "The skills needed to install these systems are similar to those required of telephone installers." LMIN's 1979 report on Interconnect Telephone noted that the training required for entry-level employment as a telephone installer is basically electrical and includes some manual skills. However, since the number of jobs in installing energy management computer systems is not sizable there is little immediate need for a training program.

There are some energy-related maintenance jobs such as boiler burner maintenance and repair work which require electrical skills as well as mechanical skills. "But even when they change a boiler, there's only one boiler man needed to maintain it."

One respondent believes that if there were to be jobs in energy conservation and alternative sources they would require a "systems approach that is not traditional." This could mean that manipulative skills required for the maintenance and repair of equipment would be taught along with applied science. The student should not only understand how, but why the equipment is used in energy conservation or by any of the new energy sources.

## Conclusion

The development of alternative sources of energy and energy conservation measures can be costly. One respondent believes that conservation efforts are being impeded by "the unclear impact of budget cuts and the effects of inflation." Inflation has increased the costs associated with weatherization - "people can't afford to insulate and retrofit buildings." Another said the "there is no longer any federal money for conservation. The Government's view is that conservation will provide its own economic incentive." The federal government once provided much "seed" money in this area, but the number of energy projects currently receiving federal funds is dwindling. Optimists hope that a tax credit bill pending in the New York State legislature will provide a new stimulus to development. One proponent commented, "If the New York State tax credit bill passes, it will increase solar energy development."

At the present time, however, the number of jobs in New York City in energy-related occupations is not large despite optimistic predictions. In fact, even recent conservation measures planned by the City government are not expected to create many new jobs. And it appears that whatever expansion in jobs will occur will be at the higher, more technical levels. Therefore, there is little need at this time for a pre-employment training program for energy-related occupations.

# CABLE TELEVISION

Cable television is being heralded as a major growth industry. It is anticipated that entry-level jobs will be created when the franchise contracts for the four boroughs other than Manhattan are awarded, but just how many is unclear. Awarding the contracts is expected anytime from late fall 1981 through mid-1982.

In response to such expectations LMIN conducted a pre-study inquiry to determine whether a more formal approach was warranted. Information on hiring and training requirements was gathered from representatives of cable television companies already in existence, and from City officials involved in the franchise process.

## Entry-Level Jobs

Company representatives said that entry-level jobs will only become available with the awarding of the franchises, but that hiring requirements and training can be anticipated. Some variation in these can be expected depending on which of the bidders are awarded contracts, and how many contracts are awarded.

Since LMIN's focus is primarily on training for entry-level positions this study was restricted to discussion of the position called installer, which is generally viewed as the principal entry-level job in this industry. Currently there is no substantial supply of skilled installers and the companies bidding for the franchises expect to recruit locally and then train their recruits. Experience comes from companies already working under previous franchises, or in such similar businesses as regular and interconnect telephone and burglar-alarm installation.

The lowest-level technical job in cable television is in an installation crew. The work includes carrying cable, installing wires through walls and halls, attaching these wires to signal converters and television sets, and adjusting the television set for the new signal. As noted, the work is roughly equivalent to telephone or other low-voltage electrical installation. Current wages for the cable television installer approximate the minimum wage level.

The wage and grade structure for technical positions in these companies is governed by their contractual agreements with Local 3, International Brotherhood of Electrical Workers. The next-higher grade level after installer is service technician, and involves the diagnosis and repair of malfunctioning equipment or wiring. The highest job levels are in plant maintenance, and in outside construction connected with installation. Most companies prefer to move incumbent employees into higher grades, when possible.

## Hiring Requirements

The current hiring requirements for entry-level installer are a high school or equivelency diploma, a driver's license, ability to work with hand tools, some basic mathematics competency, ability to fill out workorder forms describing what was done, and no fear of heights.

Some companies provide on-the-job training, while others put their entry-level employees through a training school. One company uses an on-the-job training model that consists of a "buddy-system" program. Another firm runs an eight-week training-school program. A typical training curriculum provides, in addition to the technical instruction, 40 hours of pole-climbing instructions, and a course called "human engineering," which is intended to develop confidence, personality, and the motivation to "play the winning game."

At one point, interest was expressed by The Committee for Women in Non-Traditional Jobs in whether installer jobs could be made more easily available to women. Company spokesmen reported that in their experience many women who applied for these jobs, or who were hired for them, found the pole-climbing disagreeable and had difficulty with the mathematical and electrical knowledge demanded.

## New-Job Estimate

The Bureau of Franchise's Office of Telecommunications expects that with the awarding of the new contracts some 420 to 630 new entry-level positions will be created, but these include construction workers and clerical personnel, as well as installers. The entire estimate is a rough one, and it was not possible to determine the numbers by job category, except that installer jobs will be less than the total. Also, the estimate was conditional on when the contracts are awarded, the market for cable TV at that time, and to whom whom contracts are awarded. Hiring practices may well vary according to which company is the successful bidder.

Since neither construction nor clerical entry-level positions are likely to involve training specific to cable television, only the installer job holds a potential for pre-employment training. However, the companies all appear to be prepared, and possibly even to prefer, to do their own training, so publicly-funded training seems either highly unlikely or limited to a small group. Furthermore, regular and interconnect telephone work, and other forms of electric-wiring experience, might provide job candidates with relevant experience by the time cable TV jobs become available.

On the basis of this information, LMIN concluded that further study of potential for training for these jobs was not warranted, at least for the present. If the potential for cable TV is ultimately realized, there may be a range of TV production jobs, which in all likelihood, like network TV, not be available through entry-level training.

# 3.
# Technical Assistance

# TECHNICAL ASSISTANCE

The typical relationship between LMIN and users of the project's information continued to take the form of requests for publications, for special information, or for consultation. These requests, as in the preceding year, came mainly from non-profit agencies and schools, sometimes located outside New York City. They only infrequently suggested areas or issues to study. Most contacts were related either to topics already studied or occupations demanding education and training beyond the scope of the project.

The extent to which LMIN's findings have been used in the identification or design of training programs is not known. But where this has occurred and a relationship between a user and LMIN has been established, information beyond what had been included in the written report could be provided. For example, LMIN staff serves on the advisory board of a hotel training program begun in response to the 1978 report. As noted earlier, this industry was considered for re-examination but not studied again this year because the current situation was not thought to differ materially from 1978. However, of interest to a school-based program is the intimation that, in an industry that except for its uppermost level has not emphasized literacy as much as most in this City, the demand for reading, writing and computational skills is increasing. This trend, a result of a need to upgrade efficiency in such areas as food service and increase worker productivity and promotability, is already a factor in the selection of employees for educational programs offered jointly by the management and the union. This was brought to the attention of the staff of the high school program to emphasize that training cannot substitute for basic education and to encourage them to clearly articulate the high school program with higher levels of training.

Another type of relationship evolved in the course of LMIN staff consultation with a BOCES program faculty. There, the secretaries, overhearing the discussion concerning probable changes occurring in office work asked if LMIN would provide seminars for them "so we could head in the right direction."

But such relations have depended on special individual responses rather than a systematic approach.

## The Search for Formal Systems of Relationship

During 1979, the major instrument was to have been a conference for all staff levels in user organizations. This was abandoned when administrators of the three intended users, the State Department of Labor, the City Department of Employment, and the Board of Education, unhesitatingly agreed that such a conference would have no utility. Their reasoning, while essentially defensive, nonetheless persuaded LMIN and its Steering Committee that the ultimate impact of a large-scale conference would be negligible. The systems represented were afflicted with too much inherent rigidity to be modified even modestly by information furnished by an outside organization and derived from a source, namely employers, that the agencies often considered an adversary.

The next step was to bypass the administrators and reach out directly to some of those closer to the actual teaching or training process. Acting on advice from within these organizations, LMIN convened Task Forces by occupation or institution indicated as the ones more likely to be responsive to new ideas and information - school counselors, voluntary agencies in the forefront of program design for CETA funding, and community college curriculum planners. As summarized in LMIN's 1979 report, all three group discussions provided insights into the problems they confront, of which only a few could be mitigated by information alone, no matter how up-to-date or reliable. In different ways they all said that their inability to respond appropriately and quickly to a changing labor market resulted from inhibiting factors "in the system."

## Contractual Specifications

In 1980-81, the major mechanisms for relationship with users, as mentioned in the introductory chapter, were to have been the specific activities outlined by DOE in the project's proposal, and an enlarged Advisory Committee, that included more potential users than the project's three original sponsors.

The activities spelled out in the proposal, which became the project's contract, called for review by LMIN of selected occupations, RFPs, and proposals, all selected by DOE. Despite group meetings and individual consultations, all in response to requests made by LMIN, nothing transpired. No occupations were selected, no proposals were referred. LMIN was asked to attend one meeting to review reports issued by DOE's new planning group. The reports attempted to identify appropriate occupations for training by means of available statistical information. But LMIN's contributions at these meetings were relatively insignificant, since it was precisely this kind of data the LMIN method had been designed to update and complement. Beyond this, with the exception of discussions with a few individual DOE staff members with whom a personal relationship had developed, there was no genuine contact with DOE. Quarterly reports were filed, and as required by contract, reports of individual Task Forces were forwarded to specified DOE officers as soon as they were completed, but LMIN has no way of knowing what reaction they elicited or even if they were read.

No reasons were given for the lack of actions that had been prescribed. Some generalized comments were made about a decrease in available funds, but there were projects funded during the year. Perhaps concentration on evaluating proposals was justifiably diverted by the ominous sounds emanating from Washington soon after the election that in 1981 resulted in wholesale elimination of some programs. Or perhaps, as was indicated by some DOE officials, their current preoccupation is with the least employable segment of the population who, because they are grossly deficient in basic education, are ineligible for training programs which are perforce designed to succeed in placing trainees after only a few months of instruction.

Although only a speculation, it would seem that LMIN's findings are not compatible with the assumptions upon which DOE's programs for CETA are based. Only a small and shrinking number of entry-level jobs demand the type of training DOE is prepared to provide. And the terms under which funds are available inhibit, or even prevent entirely, launching innovative or experimental programs.

## The Advisory Committee

The Advisory Committee that finally was convened was selected from a much larger group. LMIN met with the representatives of a much wider range of City agencies, private foundations, training programs, and educational institutions. DOE personnel recommended not only many institutions to contact, but in some cases which of their representatives to consult. But the total group would have been too large for effective functioning. LMIN, therefore, decided to omit those whose representatives appeared totally uninterested in the project's basic purposes.

As already noted this Committee met only once and the response at this meeting did not provide an impetus for further meetings. There were a few suggestions made for areas of study, already mentioned in the introductory chapter. There were assertions by some members that they did indeed use the information provided by LMIN. The sole contribution of note was made by the one member who provided LMIN with assistance in designing the study of small manufacturing firms.

The Advisory Committee itself acknowledged the inability of formal systems to effect the desired relationship when, in response to questions concerning how LMIN should proceed, it recommended as alternatives internalizing the project within DOE or the Board of Education, or developing a group of paying subscribers. As an internal part of organizational structure they assumed there would be effective channels of communication. And "when you pay for some service, you tend to use it."

## Direct Contact With Agencies

The activities that seemed more fruitful were those initiated by LMIN not as a result of either a formal relationship or a contractual obligation, but simply as an outgrowth of its own activities. Not all of these as yet show specific or measurable results, but they may indicate how an information-gathering service can relate to program designers or service providers.

### TAP Centers

For example, in its proposal for 1980-81 LMIN had mentioned sharing the information it was gathering with staff members of the Job Testing Assessment and Placement (TAP) Centers. Only with one group was such a workshop session held. It was well attended.

In February 18, 1981, LMIN met with approximately 30 TAP Center staff members, mainly employment coordinators and satellite directors. The purpose was to establish the beginnings of a relationship so that LMIN could provide assistance to TAP Center personnel in the form of information gathered from employers.

Prior to the meeting, those who were to attend suggested four questions of concern to them to be discussed. These were:

1. The Job Interview: An Employer's Perspective.
2. Skills Training: How Useful Is It?

3. Job Readiness: What Is It? An Exploration of Training Approaches.
4. Overview of New York City's Labor Market Trends.

These are indeed significant issues and ones that demand intensive discussion and frequent review, but there are limits to the value of generalizations. More can be achieved if the same questions are reviewed in the context of particular jobs or industries. But there was only time for general discussion at this meeting.

LMIN asked the participants to describe how they related to clients and to employers. This resulted in a lively interchange from which LMIN learned much about the Centers' operations and problems.

Some issues mentioned were structural or organizational. Some concerned what was perceived by the participants as limitations in services to clients. The following excerpts are illustrative:

- I don't think we are making the difference for our clients. We need more time with them - three or four visits - but we have too much paper work.
- It takes too long to find out what training exists and our clients can't wait.
- Our clients are mostly not job-ready. But training program standards are too high for them. They need language remediation, ESL, or beginning typing, etc.
- We have clients who are not CETA eligible and who need training. But we have nothing to offer them.

## Client Characteristics

It should be noted that although most often the clients discussed were severely disadvantaged with limited education, little or no work experience and "no salable skills," other client categories were mentioned. For example, some spoke of housewives looking for part-time work, or women returning to the labor force after long years at home but with extensive volunteer experience, or well-educated immigrants from Russia, India or Egypt, of which some "can really communicate although their English reading ability is 1st grade," and others who speak English fluently, score high on the California Achievement Test and have foreign work experience.

These are in the minority, although it was acknowledged that there is a rather wide spread of client ability in each Center, including "some who don't need us to get a job." But it is the large numbers of the "hard to place" that are a major concern.

### Job Market

The major focus of the discussion was on the unavailability of jobs or of jobs for which their clients could qualify. Some complained that employers went "50 words per minute of typing and 80 words of steno," and relatively few clients have these skills. "We need clerical jobs that don't demand typing." Others said they have nothing to offer except factory work - perhaps implying that clients are not desirous of such jobs. Another noted that the factories "don't need us. All they will have to do is put a sign in the window reading Help Wanted and a line will form." The only way one participant said he can place clients is to "screen them carefully, referring only the dependable and reliable candidates so as to establish credibility or, in other words, creaming the client population.

### Employer Characteristics

There was an understandable tendency to generalize about employers' demands and especially to contrast the smaller and larger organizations. Smaller companies, it was said, turn to TAP Centers more than the larger ones and are more receptive to TAP Center clientele than "those in Manhattan" or, as frequently categorized, "the Fortune 500." Part of this viewpoint was based on negative experiences with personnel interviewers in large companies. But it was also based on the belief that the Fortune 500 "wouldn't hire our people," an assumption common to much of the non-profit world.

The desire to work in the neighborhood, even for less pay, or to avoid two or even three fares in order to commute to a minimum wage job, are legitimate limitations. But some reasons for avoiding midtown or the larger organizations need re-examination, as several participants recognized.

## Assistance Needed

In view of the increasing competitiveness in the City job market, several noted the need for special assistance. One cited targeted job tax credits as a help, another emphasized the importance of personal contacts, and still another felt that TAP Centers need help in the form of commitments from employers "because employers have a flood of applicants to choose from, many of whom are better qualified than our clients."

But they also asked for assistance in the form of up-to-date information. They wanted to have more contact with employers. In some Centers "everyone does everything" while in others the work is so segmented that the employment coordinators have no contact with employers. Some have endeavored to establish contact by inviting employers to workshops, but many agree to come saying they have jobs to offer and then fail to show up, or show up minus the jobs.

## Information Needed

This problem was well expressed by one participant who said, "We who deal with the clients, never meet employers. We get information passed down to us. We need to know more about the major companies as well as the local ones."

The reason for seeking the contact was to gain additional information. Much to their credit, the employment coordinators and others realize how difficult it is to keep abreast of the fast-changing City labor market even without the time-consuming responsibilities of counselling and placing clients. As one said, "It's not only a question of our clients needing training. We need training as well."

Here again some actual quotes tell the story.

- We don't know enough about jobs to know what they (the workers) really do, to know what training the employers really care about and what training is offered in-house.
- We need to know about jobs where English is not so important.
- We need to know about corporate training programs or other opportunities for our clients who are not eligible for CETA - because their husbands have a job, for example.
- We need to know the trends. We are moving towards focusing our job development sights on the private sector. We must place people in non-subsidized jobs.
- We need to know which are the growth industries.
- We need to know about jobs for people with low reading and math test scores.

This was a good first meeting and one that might have been followed by small group meetings focused on particular industries and/or occupational clusters, or on the needs of particular client categories. Unfortunately, there was no opportunity to evaluate this potential because, although there were expressions of interest, the administrative structure and the work patterns did not seem to lend themselves to this sort of staff development.

## Contact With PIC

Another instance of project assistance to another agency was a response to a request from the Private Industry Council for help with developing training for maintenance mechanics. LMIN had identified in a previous study a need for this category of mechanic in a variety of manufacturing businesses. The PIC representative said the report had stimulated interest within that agency in setting up such training. The request was for LMIN's help in identifying employers who might be interested in cooperating with such an effort.

The project's reponse was that it would be happy to help because this was a good example of the general need for skills-upgrading, rather than entry-level training, that LMIN had found in many occupational areas. Therefore, the proposed training would not only be itself a worthwhile activity, but could also serve as a prototype for how to overcome the institutional barriers that now impede publicly-funded skills upgrading. Consequently, LMIN shared with the PIC its information about what the content of the needed training should be, who the trainees should be, and the names of likely candidates among employers for providing support to a training program. The PIC representative promised to involve LMIN when the activity reached a more concrete planning stage.

After six months and no word, LMIN learned that the interested person at the PIC had been unable to advance the project in that setting. However, he had new hope of being able to implement the plan because he had moved to a new job with an employer-funded, rather than publicly-funded group. When last heard from, this person hoped that first steps toward the implementation of the plan might be taken "in another few months."

Customer Contact

Another activity that as yet has not borne fruit was organizing a meeting between representatives of program planners of a range of CETA-funded organizations, including the PIC and educators, with industry trainers in the field of customer contact. LMIN misinterpeted expressions of interest on the part of these program planners in the 1979 Customer Contact Task Force report. They had not been convinced of the feasibility or the value of the sort of pre-employment training that report recommended. They might have been prevailed upon to make some tentative moves in this direction if instead of meeting with trainers, there had been present representatives of companies ready to pledge promises of jobs to the trainees.

Since that meeting LMIN has been informed that some DOE officers are working on a RFP to stimulate the development of a customer contact training program.

Direct Contact With Employers

In one instance an employer initiated a request for assistance by LMIN. This came late in the term of the project's third year and was a direct outgrowth of the work of the Task Force that considered The Office of the Future.

In the course of that group's discussion, as described in the LMIN report of the session, there was the observation that for upcoming office work a very much needed skill would be what the speaker characterized as a "systems approach" to the performance of clerical tasks. There was general agreement in the group with this observation, and the participants seemed to understand what was meant, but the point was not discussed in any great detail. As a result, many aspects of what is meant in the field of planning for modern offices by a systems approach were not clarified. Beyond this, there was no intensive consideration of what steps would have to be taken, either as selection, training, or both, to assure a supply of job applicants equipped with a systems approach.

As draft copies of the LMIN report on the work of the Task Force on the Office of the Future were circulated to Task Force members and, by them, to industry associates, favorable responses and commendations were received. One of these, from an officer in a large corporation, included a request for a meeting to discuss possible next steps flowing from the findings in the LMIN report.

As a result of that meeting it was agreed that a useful next step, of interest to LMIN and, the employer assured us, of potential interest to many employers, would be to explore further the factors involved in preparing personnel for a systems approach. The employer offered support for such a study and the conditions under which such a research could be carried out were under discussion as the third year of the project's support by public funding was coming to a close.

## Aiding Employers as an Intermediary

Another outgrowth of Task Force activity, in which employers provide their information and advice about publicly-provided training, was to generate in some employers a more active interest than they had previously in seeing to it that certain public training be set up. Almost universally, however, such employers said they were unwilling to hazard involvement with the public training institution involved. They see these institutions, sometimes as a result of actual experience, not only as unfamiliar and potentially frustrating, but even in some cases as threatening.

The two instances of this for LMIN in 1980-81 involved the Board of Education because, in both cases, the employers felt that the occupational preparation should be provided by public education at the high school level or even earlier. In neither case were the employers willing to undertake approaches to the Board or to any other school personnel and, in the absence of any help, would have dropped the idea entirely. However, when LMIN offered, through its already-existing contacts, to act as a "middle man" between industry and education the employers offered not only encouragement but very concrete assistance.

Because the two instances involved very different approaches to educational preparation for an occupation, LMIN found it useful to approach the City's education establishment in different ways. The cases may be instructive for others interested in providing such an intermediary service to employers in relation to education or training institutions.

## International Trade

The Task Force on International Trade was interested in vocational preparation for a complex of occupations and careers in its field and thought that public education is the appropriate locale. However, the group was insistent that such preparation not be offered in the traditional form of specific training for a specific job, but as a broad background orientation to the field as the basis for a spectrum of occupational choices for which more targeted training could be provided later, perhaps even after some entry-level employment experience.

What this seemed to call for was a school willing to consider international trade as the basis for a core curriculum around which many academic subjects could be taught. This implied a contact directly with school personnel, rather than with officials of the central Board offices, because the prime consideration would be the school officials' actual interest, rather than their acquiescence to an order from the Board.

Through inquiries made to persons within the system, two schools were identified as potentially well suited to such a program. Administrators in the schools were contacted directly, although neither had previously been known to the project, and one of them responded with at least initial enthusiasm.

One round of discussion with the administrator has been held, during which the project representatives were able to emphasize the importance to the employers of a wide-ranging approach to occupational preparation, so that there will be a relatively solid basis for a student's having chosen this field vocationally. It was stressed that this commitment and interest are more important to these employers than narrowly conceived skills or other specific training.

Although LMIN could assure this school official that the project had received firm assurances of support for a proper education program from significant employers in the field, the official was told emphatically that the identity of these employers would not be revealed until the school was willing to commit itself to general outlines of the sort of program the employers want.

The administrator's response was that this was a perfectly reasonable position to take, and that the commitment could not really be given until the idea of a core curriculum, and the problems attending its implementation, were discussed thoroughly with the various faculty members who would be affected. Just as the school's administration has to be willing to undertake such a change, so do the teachers, if the program is to succeed.

The administrator undertook to hold the necessary discussions with the faculty and to determine whether, from their point of view, the idea is a feasible one. However, the schedule under which the schools operate dictates that such a process cannot be completed quickly. The project was told that when a decision is reached it will be communicated to LMIN and, if it is favorable, the school will then proceed to direct involvement of the employers in the planning and implementation of the program.

Should this effort succeed, it will, so far as LMIN is aware, be the first such approach to vocational preparation in the City's primary or secondary school system.

## Freight Traffic

Among the participants in the Task Force on Freight Traffic were a number who expressed interest in publicly-provided training for employment in their field, and one who was truly enthusiastic. It was another case, however, in which despite the enthusiasm there was total reluctance to become personally involved in initiating such a training proposal with educators. LMIN was again asked to serve as intermediary.

A first step was to clarify with the employer that what educators will require as positive expressions of employer support will consist not only of job offerings to satisfactory graduates, but contributions of teaching materials, consultants on technical detail and industry practice, instructors on loan should that be necessary, and possibly funds for training the Board's assigned teachers about the occupations toward which the training is directed. Once it was established that the employer was sincerely committed to providing such support, the project moved to a next level of assistance.

This involved presenting the training plan that had been agreed on in outline by LMIN and the employer to a voluntary agency experienced in training, to a well-established extension service at the college level, and to an appropriate official of the Board of Education. The three responses, all of them positive and interested but involving certain preconditions, were reported back to the employer who, in turn, discussed them with others in his firm. On this basis the employer decided that, from his company's point of view, the training it was willing to support would be in the Board of Education if that could be arranged satisfactorily.

## Picking a School

The next step was to have the Board official pick a school. Because this would be a more conventional training program, rather than a core curriculum, the ability of a high school to provide physical accomodation, competent instruction, central location, and interested students were the prime considerations. Selecting such a school from the many in the City would be much better accomplished by an official of the central Board.

The City has 110 high schools, which include:

68 academic comprehensive, or neighborhood schools.

28 vocational/technical schools offering skills training.

10 independent alternative schools whose programs emphasize work-study and community involvement.

6 educational option schools which offer courses in such occupational fields as health service, communication arts, and business.

4 specialized schools which offer intensive academic or special music, art, and drama courses.

The specialized high schools have entrance examinations, auditions, or require the submission of an acceptable portfolio. Some of the vocational/technical schools also have admission examinations.

The Board official had to balance the employer's requirements against such pertinent Board regulations as those governing class size. In the City, teaching positions are allocated in the ratio of one teacher to 35 students. As a result, whether a course will be offered depends in part on whether a sufficient number of students are willing or able to enroll in it. The Board administrator had to select a school likely to be able to provide an initial enrollment for the course. The school also had to be able to give a reasonable prospect of a continuing enrollment of sufficient size should the program, as was considered likely, require at least two semesters, and possibly more.

## Factors in the Choice

One consideration was whether the school's administration would be able to design and implement an effective marketing campaign to "sell" this course to its students.

Another consideration, particularly in the case of a new course for occupations not usually trained for, is the ability to develop curriculum and teaching materials. In this case the problem was eased because it had been found that ten years earlier there had been a curriculum, text, and workbook developed for essentially the same course in a City high school. The reasons for dropping that course, which at the time had been acclaimed a success, remain a mystery. In any event, given this information, the officials of the school approached by the Board official were able to locate this material and determine that it was still in print.

LMIN representatives met first with the Board administrator to explain what was being sought, and then with officials of the school selected by the administrator. The meetings were to establish that the educators understood what it was that the employer was willing to support.

## Instruction Criteria

One such consideration was the importance of teacher training for such a program. Although interested and intelligent, teachers would not be likely to have direct work experience in the specialized area of this Program. In the current jargon, it would be important for the teachers assigned to the course to have "hands on" experience. The school officials were asked to provide assurance that they would enlist only such teachers as would be willing to acquire such experience, given the opportunity.

Another consideration was the importance of designing the program so that in addition to regular, licensed teachers who had become familiar with the field, segments of the curriculum would be reserved for persons currently employed in the industry and considered, by the employers, competent to teach those subjects. The school officials were also asked for assurance that they would and could accept such people for such segments of instruction and integrate them into the program. It was in relation to this issue that LMIN had originally stipulated a centrally located school, so that active employees in the industry could provide the instruction without losing too much work time in travel.

## Selection of Trainees

Still another item to be considered was the attention the school would and could pay to student selection. In most schools, students select courses from a prepared list of offerings which may not even include a description of the content of the courses. This encourages haphazard selection. One of the points the employers were most emphatic about was that they want trainees who have made a considered commitment to the occupation. They recognize that this decision may change later after additional exposure and experience, but they do not want it to be haphazard in the first place. The school officials said they were as concerned as the employers about the problem of casual vocational choice and would welcome suggestions for how to improve the process.

## Involving the Employer

It was only after the school and the Board officials had provided assurance that they understood the employer's position on factors in the choice of school, instructors, and students, that LMIN disclosed to the educators the identity of the interested employer and the company involved. At that point a meeting was arranged at which the employer and the educators could themselves discuss and settle unresolved issues in the development of the desired program.

As a result of the first of these meetings, the educators were assured that much of the ten-year-old teaching material was still pertinent for the occupation, and that the gaps in it could be filled by instructors that the employer would provide.

At a subsequent meeting, summer internships, and stipends for them, were underwritten by the corporation so that two teachers would be provided exposure to a planned experience designed to enhance their ability to teach the course.

Still another issue worked out at such a meeting, on the basis of a suggestion by LMIN, was that the school would schedule a series of open discussion meetings at which prospective students could get more than the usual "Career Day" exposure to what the occupation entails. The employer undertook to provide industry representatives to make presentations and answer questions, and the school personnel undertook to publicize the meetings in such a way that there would be a worthwhile attendance.

## Researchers As Intermediaries

Although LMIN's function, by contract and by preference, has been the collection and interpretation of employment-related data, the role of intermediary in what were essentially negotiations was neither alien nor onerous. In retrospect, much of the intermediary function involved the collection of data for both sides to the negotiation so that intelligent and acceptable decisions could be made.

Therefore, in considering the utility of an LMIN-like project in other locations, or under other circumstances, it appears that the advantages of this function for an essentially data-collection project should not be overlooked.

## A First Lesson

With the opening date of the Freight Traffic training program then nine months off, and many details still to be worked out as well as much experience to be collected, LMIN had an experience that warrants mention as a cautionary note.

As the plan for the program began to take shape, and its promise of success seemed at least a reasonable expectation, LMIN learned that school personnel were already contemplating an expansion of the program to other schools in the City. The project counseled as strongly as it could against the adoption of such a course.

For one thing, it is still very unclear precisely how much demand there will be for the products of such a course, even if they turn out as expected. For another, the schools are still very much "on trial" with these employers, whose experience informs them that any new program should be started small to give it the best Possible chance of success, and to minimize the impact should it turn out to be a failure.

It appears that the enthusiasm of educators for even untested occupational programs, given the current concentration on vocational objectives, may have to be anticipated by programs undertaking the intermediary role between education and employers. Resistance to such enthusiasm should be recognized as one role for such programs. Otherwise the schools, and pre-employment training, may suffer yet another injury to their image with significant segments of industry.

# 4.

# Conclusions

# CONCLUSIONS

General observations relevant for occupational training in New York City that were reached by LMIN in 1978 and 1979* were either reinforced in 1980-81, or they were refined. A few more specific observations were found to be no longer applicable, but that was because in just a year or two the situations to which they referred had changed. In brief summary the general observations made previously were:

- Despite a few manpower shortages, numerically small, and usually where a skill shortage has developed, the general job picutre in New York City is a bleak one. There are more job seekers than jobs.
- Where jobs are available, particularly at entry level, the pay is often low and opportunities for advancement call for quantum leaps in skills and ability.
- Changes in the need for particular skills, or in the availability of particular jobs, can occur very quickly; conversely, such structural changes as increased job opportunity for women or minorities happen very slowly.
- Where it can be applied, automation tends more to eliminate semi-skilled, rather than unskilled jobs. It increases the gap between entry-level and next-higher jobs. Where it does not apply, except for very high skills, wages are low.
- Employers regard most applicants for most jobs as unsuitable on qualitative grounds. What they find lacking may include technical skills, but it is more often behavior and attitude toward work, ability to communicate with and relate to others, and interest in business and a career that employers say they have difficulty finding.
- Employers would like to see more attention paid in occupational training to these job-applicant deficiencies than to specific technical information or skill.

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* See Employers' Views on Hiring and Training, 1978 and 1979, for a fuller description of these previous observations.

- With secondary-level programs unable to deliver to the employers enough job applicants with the desired attributes the employers turn increasingly to college graduates with no job-related training, or try to attract more mature and experienced workers through such job restructuring as part time or flex-time.
- Another response is to rely increasingly on post-secondary training for job preparation that used to occur at the secondary level. Where this proves inadequate, and where the employer can afford it, reliance is shifted to in-house training.

The shift to post-secondary training is an example of an observation that in the 1980-81 studies was both reinforced and refined, especially in the rapidly changing office work scene. College degrees are not only acceptable, but preferred for many jobs and, moreover, a liberal arts background is often accorded a higher value than a degree from a business program.

In addition, in areas selected for reexamination, some reversals in hiring policy were found. For example, stenography, only recently a hiring "must," is apparently no longer sought in many larger organizations but is being replaced, perhaps only transitionally, by transcription typing that in time may give way to direct voice input.

Alternatively, where technology is not the road to increased productivity, worker literacy may be. Hotels, it was noted, once little concerned with the language or computational skills of "back-of-the-house" entry-level employees, are beginning to look for ability to understand and communicate in oral and written English.

## Previous Implications

The implications for training appeared to be that given the nature of the job market in the City, training for employment in the City has to be currently relevant to job availability and employers' hiring requirements. Also, that most youth could benefit from earlier exposure to general preparation for employment.

Specific technical training should be seen as a supplement to, not a substitute for general job preparation. Specialization should not be provided too early lest it undermine general preparation. Secondary-level occupational education and training may be more useful in preparing a job candidate for employer-provided technical training than in providing that training directly. Generic skills training might be the vehicle for such secondary-level preparation. The special applications of these findings for the roles of CETA and the community colleges were noted.

Employers' views on the form that should be used in pre-employment training were summed up in the observation that it should have a "reality fix." Reality was defined as a recognition that the training should simulate the work place, both in content and in conditions of work. Different training formats, such as OJT, Cooperative Education, and Apprenticeship, were discussed in this context and some new models suggested.

### Relation to Policy

About the ability of education and training institutions to accept such suggestions at a pace consonant with the rate of change in the labor market, the observation was that they are afflicted with institutional rigidity. From this, it was concluded that high-level policy will be necessary before these agencies can be made more receptive to change. Controlled experiments, based on available data should guide such policy. Furthermore, the receptivity will have to be provided for at the levels of planning, administration, and service delivery. The second-year report ended with the comment:

> At present, there is a wide gap in the City between what the labor market requires of entry-level applicants, and what the service agencies are in a position to provide. It is a gap too wide to be bridged by information alone.

## Third-Year Experience

The observation about the City's bleak employment picture did not change substantially in the third year. Although another study's very dire prediction of job loss was not substantiated, there was no impression among the employers interviewed by LMIN that there is a large job increase in the offing. Some employers still report increased resort to part-time employees, and virtually all still feel themselves in need of more motivated, better educated employees than they were able to use profitably in the past. In some cases they also need employees with different skills than were needed previously. They also have a sense that the rate at which their needs change is accelerating.

The escape-valve for lower skilled employees that once was provided by public employment may also be disappearing. Under pressure for increased productivity, public employment managers are responding with escalated hiring requirements.

The employers' view that job applicants are qualitatively deficient did not seem to have changed, or to have eased. Increasingly, for what had been considered routine tasks, it is being reported that there is no longer interest in the employee who nestles down dependably in such tasks and stays with them for life. The quest for people with the "drive" and "ambition" to advance is reported with greater frequency.

Although there were no corresponding reports of relaxation of the previous reluctance to hire applicants regarded as "over-qualified," there was some evidence that this is either taking place or about to. The growing preference for college-trained, if not college-graduated applicants in international trade is one such indication. Similar upgrading of entry-level requirements also were seen in other employment areas, even though the employers rarely see this as a change in their concept of over-qualified. Another indication came in the form of growing awareness in large, complicated organizations that there is a gap between operating and personnel departments, particularly with regard to entry-level qualifications.

## Hiring as Commitment

Particularly in larger companies, there was seen developing a general awareness that for many jobs entry-level hiring is for purposes of hiring trainees who, hopefully, will eventually become real employees.

The fact that as trainees they will be on the company's payroll is irrelevant to their status as trainees, but very relevant to other company considerations in respect to these new hires.

The primary consideration is the high cost of company-provided training, including in-house training. The growing preference for in-house training is in large measure a response to the need for containing these costs. A principal strategy for containing training costs is to reduce the percentage of failures, which are seen as total losses. The best chance for reducing failures, it is being found, is by being highly selective in initial hiring, with the emphasis on the intelligence, attitudes, and generic skills that make for a good trainee, rather than on the qualities of a job-ready employee.

Thus, except for the totally unskilled entry jobs, the employers are viewing entry-level hiring as a commitment to the cost of training, which has become a serious commitment. Further, in the current climate of increased employer accountability when dismissal is the only means for correcting a hiring mistake, the decision is being made more carefully or it is being, in effect, deferred until better evidence is available.

The usual means of deferral is to select for in-house training only applicants whose attitudes, intelligence, behavior and aptitude have been demonstrated to the employer by actual performance on a job within the company. This policy, in turn, is having the effect of raising somewhat the intake requirements for even the unskilled entry jobs, but not so much as in the trainee categories. If the employer cannot find enough acceptable trainees among lower-level employees, there may be resort to reliance on academic credentials and other screening devices among outside applicants. Since what is being sought is potential for training, the tendency is to take the highest credential that is seen as relevant. Training program graduates, when their preparation stresses job readiness rather than trainability, become a third-rated choice where entry-level hiring is really for training. Small companies, that cannot afford training, either take public-program graduates and complain, or "pirate" from the larger companies.

Where the focus in hiring is on job readiness, the employers stress previous identical or closely-related work experience as a hiring requirement, because they do not trust the "reality" of the training process in public institutions. Consequently, training program graduates, in this case, become a second-rated choice, and employers complain about the price they must pay for experienced workers in entry-level positions. Employers would like to be able to credit training in the same way as work experience, but find that it is not really equivalent.

## Additional Implications

The need for training to be currently relevant to job availability was not found to have diminished. Although this is an old complaint about vocational and manpower training, it is acquiring some new characteristics under the impact of the changes in entry-level hiring policies. The need for the training institutions to be able to change more rapidly in response to market changes was stated even more emphatically by the employers.

Where this need was being expressed in relation to the employers' search for trainee/employees, it became evident that one response by the training institutions could be the development of articulation between secondary-level and higher-education programs aimed at preparing students for employment. If high school vocational graduates were prepared for continuing training at a higher level in the same way that academic students are prepared for college entry, the products of the higher vocational training would be more acceptable for employment.

Some job opportunities unquestionably remain for graduates of job-readiness programs at the secondary-education level, but again the training institutions need more flexibility if they are to relate effectively to the labor market. One manifestation of this was the smaller-size work forces that LMIN was asked to investigate in its last year to see whether training for them is justified -- job developer, child care worker, sheltered workshop foreman, jobs in audio/visual, print traffic, dental laboratories, etc. These investigations did not all turn out with positive findings, but such occupations must now be looked at to find job opportunity in New York City. Even those that appear to justify training have to be viewed with caution because the opportunity can dry up under the impact of even a small training program. The public-institution preference for large programs, developed slowly, is not an adequate response to current labor market conditions.

For both job-readiness and articulated programs an exception may exist in training for generic skills, but it is clear that there are enormous obstacles to overcome before a full-scale involvement in such training will be practical in the public institutions. The trainers are afraid of it, largely because they are not sure what to teach, how to teach it, who to teach it to, and who to have teach it. Their fears are not all unfounded. Nevertheless, although there is still much to learn, it also appears to be the time to learn by making a start. Perhaps, in addition to flexibility, the training institutions also need courage.

At the same time, many employers are also unused to such an approach to job preparation. Although they may support the idea in principle, or even under their own auspices, it is unclear whether they will accept the products of generic training by others. As in many other job programs, the employers' attitudes need as much attention and preparation as those of the educators and trainers.

## Other Needs

In addition to being responsive to small pockets of job potential that may not last very long, the public institutions may have to be able to anticipate potential. Such leads as the factory expediter and the set-up worker have to be investigated. If they are feasible as job opportunities, training should be directed to them even if this disrupts established patterns, and before a manpower shortage becomes critical. This implies for training and education institutions an investigative capacity that is not currently standard for them.

Such investigative units, in addition to more conventional approaches, could attempt such strategies as LMIN essayed in its preliminary excursions into longer-range "futuring" than is ordinarily incorporated into labor-market study designs, or into explorations based on such factors as size of work force, rather than usual industry or occupational categories.

## One More Perspective

Although all these observations, flowing from three years of work, may be interesting, they are to some extent peripheral to the intent of the project. Its fundamental purpose was to test a method.

From one point of view with regard to that test -- the ability of the method of obtain from the intended sources the information they possess -- the project was a qualified success. The qualification is that although in most cases it was able to obtain the information it sought, in others it was not. The outstanding example of employer resistence was among the proprietors of small manufacturing firms.

Examining that experience leads to the conclusion that where employers are responsive to this method's inquiry, they are employers who feel there is a future ahead of them for which they must prepare, including manpower preparation. The employers who would not respond were not really any busier than those who did, but they were more harassed, and more depressed. Therefore, positive employer response may be regarded as an indication of employment potential, and rejection at least a hint that jobs are not really available.

However, from another point of view, the test was not so successful. This is the point of view that sees information as consisting not only of a provider of data, and the data itself, but also of a recipient.

For this project to have initiated a data flow, it had not only to persuade the employers to give their information, but also to persuade the training institutions to make use of it. We were better at getting some people to talk than we were at getting others to listen.

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THE NEW YORK STATE DENTAL JOURNAL
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PORCELAIN JACKETS, INC.
Ben Sternberg - President

### Additional Sources

DENTAL LABORATORY ASSOCIATION OF NEW YORK
Arthur Wilde - Executive Director

DENTOGENICS
Martin Schanzer - President

GEMCO DENTAL LABS, INC.
Louis Weiss - President

SABELLA DENTAL STUDIOS
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## ENERGY RELATED OCCUPATIONS: SOURCES

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CONSOLIDATED EDISON COMPANY OF NEW YORK

COOPER UNION RESEARCH FOUNDATION, INC.

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DEPARTMENT OF GENERAL SERVICES OF THE CITY OF NEW YORK

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